PROVINCE WIDE SERVICES

Activities and Outcomes
2005 Annual Report

Province Wide Services
Working Group
October 2006

Alberta
Health and Wellness

Preface

This 2005 Annual Report on the Province Wide Services (PWS) program has been authored by the Health Authority Funding and Financial Accountability Branch of Alberta Health and Wellness.

For the 2006/2007 fiscal year, funding is established at $545 million, so it is important to demonstrate the types of services being delivered and the outcomes achieved through this investment.

This publication includes activity data from the 2004/2005 fiscal year, as well as the funding allocated for 2005/2006 and 2006/2007. The primary sources for most information are the Province Wide Services Annual Reports received from Capital Health and the Calgary Health Region. There is also additional information on changes to the programs during the year, and key decisions of the Province Wide Services Working Group, the advisory committee that assists in overseeing these programs.

The Special Features Report section for the 2005 Annual Report highlights the Northern and Southern Alberta Renal Programs (NARP and SARP), Calgary's Prevention of End Stage Renal Disease Program, and the Northern Alberta Neonatal Intensive Care Program (NANICP). We would like to express our thanks to those people who have committed significant time and effort to produce these feature articles.

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Overview of Province Wide Services

Province Wide Services refer to a group of key medical life-saving interventions which are specialized in a limited number of sites in the province but available to all Albertans. They include organ transplants, major heart surgery, kidney dialysis and many other important medical services. The full list of specific Province Wide Services is contained on page 2.

Unlike the majority of hospital and community regional health services, a special provincial governance structure has been put in place for Province Wide Services. This helps ensure these key life-saving interventions are provincially planned, employ the best proven technologies, and are adequately funded so they will be there for all Albertans when they need them. Albertans can be proud of the quality of these highly specialized services made available to them.

The Province Wide Services Working Group (PWSWG) is the provincial advisory committee overseeing PWS. Committee members include representatives from the Calgary and Capital health regions who deliver these services, a rural health region, and Alberta Health and Wellness. The committee utilizes its clinical and financial expertise to recommend on service levels and budget. The committee also reviews emerging technologies and proposals for new Province Wide Services.

Given the mandate of Province Wide Services to ensure equitable service access to all Albertans, this Annual Report presents extensive information on region of residence for patients receiving these services.

Figure 1: Hospital Discharges - PWS Cases vs. All Other Cases, 2004/2005

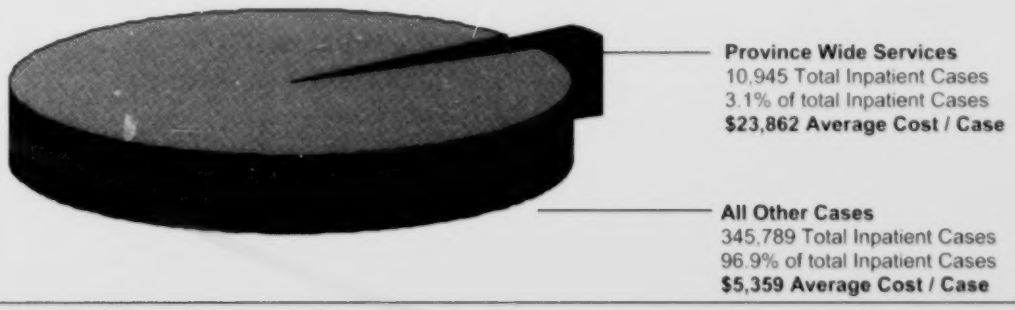

Province Wide Services
10,945 Total Inpatient Cases
3.1% of total Inpatient Cases
$23,862 Average Cost / Case
All Other Cases
345,789 Total Inpatient Cases
96.9% of total Inpatient Cases
$5,359 Average Cost / Case

Figure 1 shows how the average cost of the specialized PWS inpatient services are nearly 4 times higher than the cost of other hospital-based care. (Note: the costs shown are those incurred by the regional health authorities and exclude any physician fee-for-service claims).

Province Wide Services Mission Statement

Province Wide Services (PWS) is intended to fund a narrow band of high cost services that, because of their nature, can only be effectively provided at one or two sites in Alberta. PWS activities are planned collaboratively between Alberta Health and Wellness, the Calgary and Capital health authorities, and all health regions to ensure these highly specialized services are provided in the best interests of the province as a whole, with proper medical and financial accountability. PWS is patient-focused and equitably accessed by all Albertans.

2005 Inventory of Province Wide Services

Inpatient Services

- Organ and Bone Marrow Transplants
- Selected Tertiary Services for:
  - Trauma and Burns
  - Neurosurgery
  - Cardiovascular Procedures
  - Neonatology (low birthweight infants)
  - Oncology

Clinics and Home Services

- Dialysis and Renal Program
- Dialysis Prevention
- Pre-and-Post Transplant Activities
- Medical Genetics
- Islet Cell Transplantation
- HIV Clinics
- STD/TB Clinics
- 1-800 AIDS Hotline
- Poison and Drug Information Services (PADIS)
- Home Enteral Nutritional Therapy
- Craniofacial Osseointegration (COMPRU)
- Children with Complex Healthcare Needs
- Education Resource Centre
- Pediatric Transport

High-Cost Drugs

- Immunosuppressants (Cyclosporine, Tacrolimus, Sirolimus, Mycophenolate, Basiliximab, Daclizumab, IKT-3, ATGAM, Ondansetron and Filgrastim)
- HIV Antiretrovirals
- Human Growth Hormone for Chronic Renal Failure and Growth Hormone Deficiency
- Pulmozyme for Cystic Fibrosis
- * Pediatric Crohn's Medication (Remicade)
- * Pediatric Multiple Sclerosis Medications (Copaxone, Avonex, Rebif, Betaseron)
- Flolan and Tracleer for Primary Pulmonary Hypertension

** - denotes new additions to PWS for 2006/2007*

High-Cost Devices

- Cochlear Implants
- Implanted Cardiac Defibrillators
- Cranioplasty

Rosehaven Provincial Program

- Located in Camrose, this program provides special behavioural care within the continuing care system throughout Alberta

Ocular Photodynamic (Visudyne) Therapy

- Laser-activated drug (Visudyne) treatment of classic wet age-related macular degeneration

Alberta Provincial Project for Outcomes Assessment in Coronary Heart Disease (APPROACH)

Province Wide Services Working Group (PWSWG)

Originally created as the Province Wide Services Advisory Committee in 1997, this group is tasked with advising the Ministry on all aspects of the delivery of services. This included developing annual budget recommendations, screening proposals for new or expanded programs, and monitoring the performance and outcomes of existing programs.

Although scaled down to a smaller group in 2002, the newly named Province Wide Services Working Group maintained much of the same mandate as its predecessor, consisting of the following membership:

- Chair appointed by the Minister of Health and Wellness
- Chief Medical Officers for Calgary Health Region and Capital Health
- Chief Financial Officers for Calgary Health Region, Capital Health, and one non-urban health region
- Assistant Deputy Minister of Finance and Corporate Services for Alberta Health and Wellness
- Secretariat and staff support by Alberta Health and Wellness

A full listing of the members of the Province Wide Services Working Group (PWSWG) can be found in Appendix A.

Highlights

2004/2005 Results

Inpatient Services:

CALGARY HEALTH REGION – During 2004/2005 fiscal year, the Calgary Health Region provided 4,975 PWS-funded inpatient surgeries, which is slightly less than the 4,994 procedures performed in 2003/2004. Estimates prior to the year had predicted a total of 5,444 surgeries, which is just over 9 percent higher that what was actually provided. Some of the most significant areas where volumes dropped off below expectations are in cardiac bypass surgery and neurosurgery. Kidney and bone marrow transplants also experienced lower volumes than anticipated. Calgary did, however, see a sharp rise in the number of extremely small infants born with birthweights less than 750 grams (1.65 pounds), who can tend to be among the most complex patients served by the health system today.

CAPITAL HEALTH – a total of 5,979 PWS inpatient cases provided to Albertans in 2004/2005, a drop of 67 total procedures from the previous year and 92 procedures less than projected for 2004/2005. As with Calgary, a significant decrease was seen in cardiac bypass surgery volumes and neurosurgery, but these decreases were offset by higher than expected coronary angioplasty procedures. Organ transplants performed in Edmonton, however, had somewhat mixed results, with higher volumes of kidney transplants than the previous few years, but lower heart, lung, and liver transplants than expected.

2006/2007 Budget

A PWS budget totaling $545 million for 2006/2007 was announced in March 2006, representing a 7 per cent increase from the previous year.

PROVINCE WIDE SERVICES

Activities and Outcomes

Activities and Outcomes

Inpatient Services

In relation to the broad range of procedures that can be performed in a hospital, the PWS Inpatient Services are a relatively small, but specialized list. The word "inpatient", for the purposes of this report, refers to someone who must stay overnight in a hospital for the duration of their care. Generally, what makes the PWS inpatient services unique from other hospital-based care is the heavy reliance on specialized staffing, expensive equipment, or usually both. There is also a requirement that centralized, provincial planning of these services is beneficial for clinical and financial reasons when compared to regionally planned hospital care.

The list of PWS-funded Inpatient Services includes: bone marrow transplants, organ transplants, heart surgeries, selected neurosurgical procedures, neonatology (low birthweight infants), and selected oncology services.
These key services are funded under the premise that only one or two sites in Alberta should conceivably be offering them, for reasons of safety, provider proficiency, and efficiency. In many of these cases, these specialized sites also serve many other Canadians from neighbouring provinces and territories who do not have sufficient population to establish an effective program, especially in areas like transplants and neonatology (high-risk newborn babies). In such circumstances, it is the responsibility of the person's home province or territory to cover the cost of caring for their resident in Alberta.

Attention is given to ensuring equitable access to these services by all residents of Alberta, regardless of their geographic proximity to the specialized program.

Figure 2 illustrates the percent of PWS-funded inpatient services received by residents of each health region in Alberta, compared to the percent of the provincial population that region comprises. This is only for illustration purposes, as there are many factors like average age and social determinants that would impact on one region requiring more services than another.

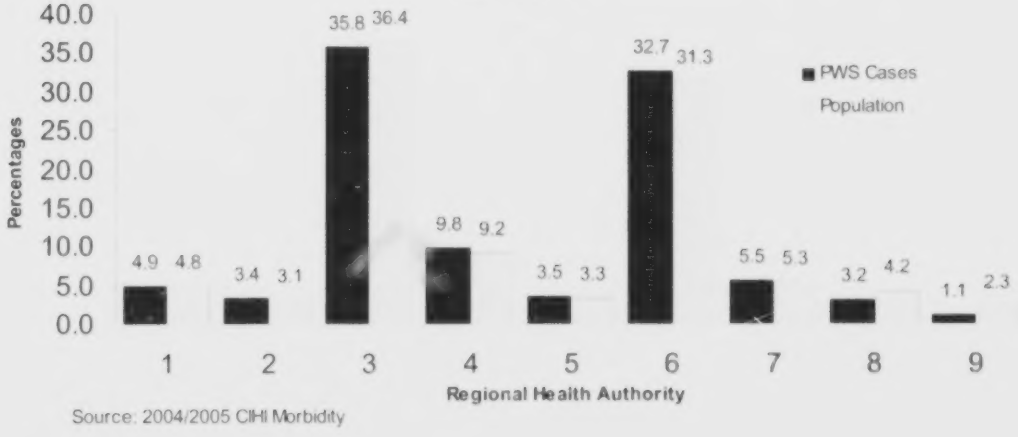
Table 1 PWS Inpatient Services (current PWS list) Activity Trends							
	ACTUALS						AVERAGE ANNUAL GROWTH
Inpatient Service	**1999/00**	**2000/01**	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**99/00-04/05**
Organ & Bone Marrow Transplants	355	345	395	385	377	371	0.9%
Trauma and Burns	416	471	521	468	439	455	1.8%
Neurosurgery	1,716	1,802	1,784	1,769	1,754	1,695	-0.2%
Cardiovascular	5,264	6,437	6,129	6,450	6,812	7,079	6.1%
Neonatology	477	545	593	611	619	606	4.9%
Oncology	580	598	660	703	768	759	5.5%
Total Inpatient Separations	**8,808**	**10,198**	**10,082**	**10,386**	**10,769**	**10,965**	**4.5%**

Source: CIHI Morbidity Data and PWS Budgets

Note: Caution should be used in interpreting the trends because of changes to both the ICD coding system and the corresponding CMG groups over this time period. Cardiovascular numbers have been supplemented with ambulatory care activity for angioplasty cases where the inpatient visit occurred at a different site than the surgical procedure.

Table 1 illustrates volume growth in broad categories of inpatient surgeries over the past five years and the number of cases projected for 2004/2005. Highest growth areas have been in oncology, neonatology (low birthweight babies) and cardiology.

Figure 2: PWS Inpatient Services by Patient Region of Residence, 2004/2005



Source: 2004/2005 CIHI Morbidity

Figure 2 provides a side-by-side comparison of the population percentage residing in each regional health authority alongside the percent of their residents receiving these services.

Organ and Bone Marrow Transplants

Organ and tissue transplantation offers a new chance at life for those living with medical conditions that would otherwise be life limiting. The idea of transplanting failing tissue or organs is not new, but only with the advent of modern immunosuppression medications has this marvel of modern medicine been accomplished. The development of new medications and surgical techniques is continually evolving in research being conducted worldwide. Specialists consider transplantation as a treatment, and not a cure, as patients living with transplants must be monitored for the life of the organ, and the use of immune system suppressing drugs makes them very susceptible to infections and illness.

PWS funds the following organ transplant procedures:

- heart
- lung
- liver
- kidney
- bone marrow for patients who have undergone radiation and/or chemotherapy
- islet cell transplants harvested from pancreatic tissue

The Canadian Organ Replacement Register (CORR) is a national database maintained by the Canadian Institute of Health Information (CIHI) in Ottawa. Information provided by CORR indicates that volumes of transplants in Alberta have seen very low growth over the past 5 years. Despite a rapidly growing population, the availability of donor organs remains the vital limiting factor preventing patients from receiving this life-saving surgery. Donation of partial or full organs by living donors has allowed many to receive kidney and lung transplants, but even growth in living donation appears to have plateaued in recent years. As a proportion of total transplants, living donor transplants in Alberta accounted for 46 percent of all donated kidneys and 10 percent of lung transplants in 2004.

The following indicates the number of Albertans waiting for an organ transplant as of December 31, 2004:

- heart 23
- kidney 312
- liver 97
- lung(s) 62

Table 2: PWS Organ and Bone Marrow Transplants

	98/99	99/00	00/01	01/02	02/03	03/04	04/05
Heart/Lung (Capital)	33	35	50	58	55	39	40
Kidney (Capital, Calgary)	143	134	117	143	127	139	139
Liver (Capital)	47	55	40	45	50	51	48
Bone Marrow (Calgary)	130	127	149	138	153	148	144
Total Transplants	**353**	**351**	**356**	**384**	**385**	**377**	**371**

Source: CIHI Morbidity Data

Table 2 shows the total number of transplants performed in 2004/2005 funded by Province Wide Services.

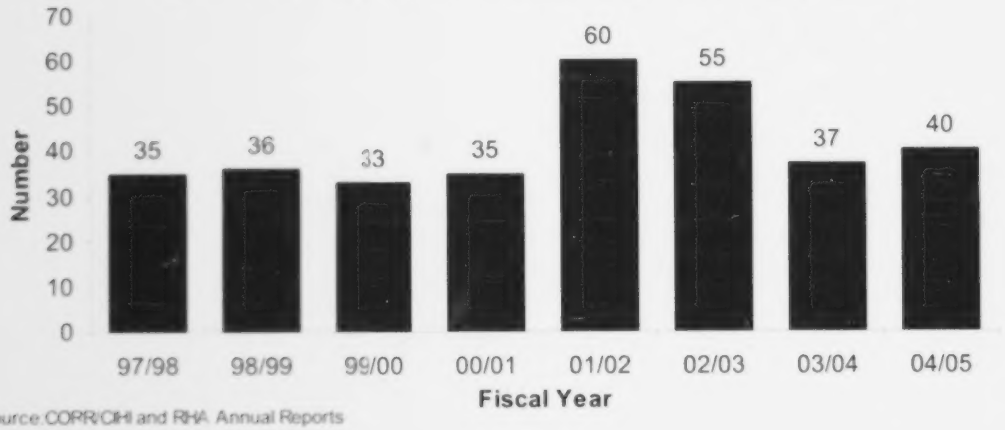
Heart and Lung Transplants

All heart and lung transplants in the province are performed at the University of Alberta Hospital in Edmonton, which includes the pediatric patients served through the Stollery Children's Hospital.

The figures for heart and lung transplants are reported as a single number, primarily because of a reporting method used by CIHI, but also because there are often a certain number of dual-organ transplants performed each year involving both heart and lungs. There were a total of 40 heart and/or lung transplant surgeries performed in 2004/2005, which is the second year in a row that volumes are significantly lower than expected.

Heart and lung transplants are among the most intensive procedures in modern medicine, and there is a lengthy recovery period for patients before they are able to return to everyday activities. Beyond the initial healing of surgical scars, patients must undergo repeated tests to ensure their new organ is functioning properly, and all must participate in lengthy rehabilitation to restore strength and stamina that was often lost due to their pre-transplant conditions. The tremendous role of family caregivers and understanding employers cannot be underestimated as they support the transplant patient through this process.

Figure 3: **Historical Alberta Heart/Lung Transplant Volumes**



Source: CORR/CIHI and RHA Annual Reports

Kidney Transplants

Both the Calgary Health Region and Capital Health in Edmonton are responsible for providing kidney transplants for Albertans. In most cases, patients undergoing a transplant have been living for a number of months or even years while receiving kidney dialysis (another Province Wide Service, described later in this report).

Kidney failure, or *'end stage renal disease'*, is characterized by an inability of the kidneys to adequately filter blood for removal of metabolic byproducts from the body. This failure can arise from any number of conditions, but especially unmanaged diabetes, high blood pressure, and trauma.

A transplant allows patients to regain freedoms that a life on dialysis tended to restrict. Patients are no longer reliant on a machine to filter their blood from 3 to 7 times a week, the fluctuations of high and low energy are reduced, and the impact of their illness on family is greatly diminished. These freedoms come with a cost, however, of lifelong reliance on drugs that suppress their immune system, greater susceptibility to infection, and the knowledge that they will need to return to dialysis if their transplant is unsuccessful.

As of March 31, 2005, there were a total of 1,574 patients living in Alberta with a kidney transplant and being followed up by one of the two transplant programs. This figure is up over 65 percent from the 938 kidney transplant recipients only 7 years ago in March of 1998. The increase in total number of living donors is attributed with being one of the biggest factors allowing this growth to occur, as donation from deceased donors has been relatively stable throughout the same period.

From a cost effectiveness perspective alone, the initial investment of almost $28,000 per transplant performed is more than covered by savings in subsequent years of dialysis, which can range in cost from $30,000 to $60,000 annually, depending on type of dialysis. With over 300 Albertans currently waiting for a transplant, there is still an overwhelming need to actively encourage all Albertans to sign their organ donor cards and express their wishes to their family.

Table 3: **2004/2005 Kidney Transplant Recipients – by Region of Residence**

Health Region			
Region 1	5	Region 6	51
Region 2	2	Region 7	4
Region 3	46	Region 8	3
Region 4	11	Region 9	1
Region 5	2	**TOTAL**	**126**

Source: CIHI 2004/2005 Morbidity File

Table 3 shows the health region residency of kidney transplant recipients in 2004/2005.

Liver Transplants

The University of Alberta Hospital in Edmonton is the only facility in the Province that is currently performing liver transplants. As with other transplants, patients receiving a new liver must take responsibility for taking medications, attending regular clinic visits with their specialists, and generally maintain a healthy lifestyle to give their transplant the best chance of long-term survival.

Liver failure does not result from any single cause, but can arise from such factors as inherited conditions, malnutrition, excessive alcohol consumption, and Hepatitis B or C. Wherever possible, it is highly preferable to begin early treatment of patients who are demonstrating early signs of liver failure. There are often treatment options available to prevent full failure of the organ and avoid the need for a transplant. Patients whose liver has completely stopped working, however, only have a transplant as a treatment option.

During the 2004/2005 fiscal year, the Capital Health program performed 48 liver transplants. On March 31, 2005, there were 78 Albertans on the waiting list awaiting a donor organ to come available. According to the national transplant registry data in Ottawa, there were also 12 Albertans who died while waiting for a liver in 2004.

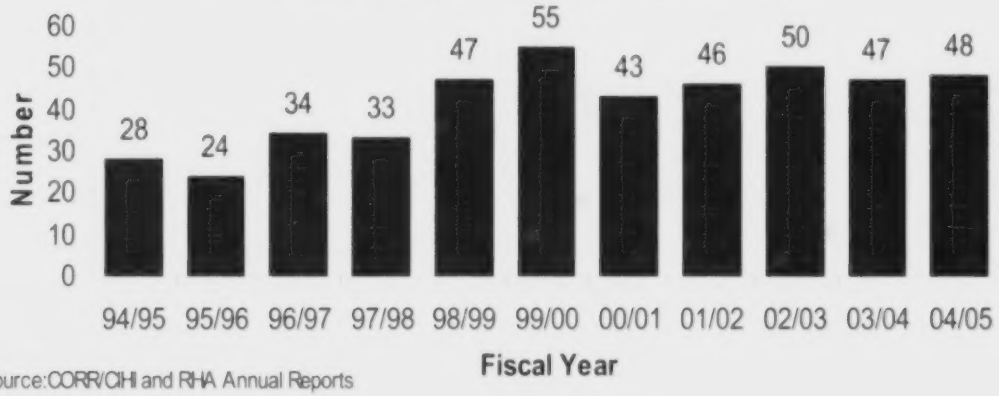
Table 4: **2004/2005 Liver Transplant Recipients – by Region of Residence**

Health Region			
Region 1	3	Region 6	20
Region 2	2	Region 7	3
Region 3	10	Region 8	3
Region 4	5	Region 9	1
Region 5	1	**TOTAL**	**48**

Source: CIHI 2004/2005 Morbidity File

Table 4 shows the distribution of liver transplant recipients across Alberta (patient's home region was not identified in an additional four cases).

Figure 4: **Historical Alberta Liver Transplant Volumes**



Source: CORR/CIHI and RHA Annual Reports

Figure 4 shows the historical trend in liver transplants since 1994/95.

Bone Marrow Transplants

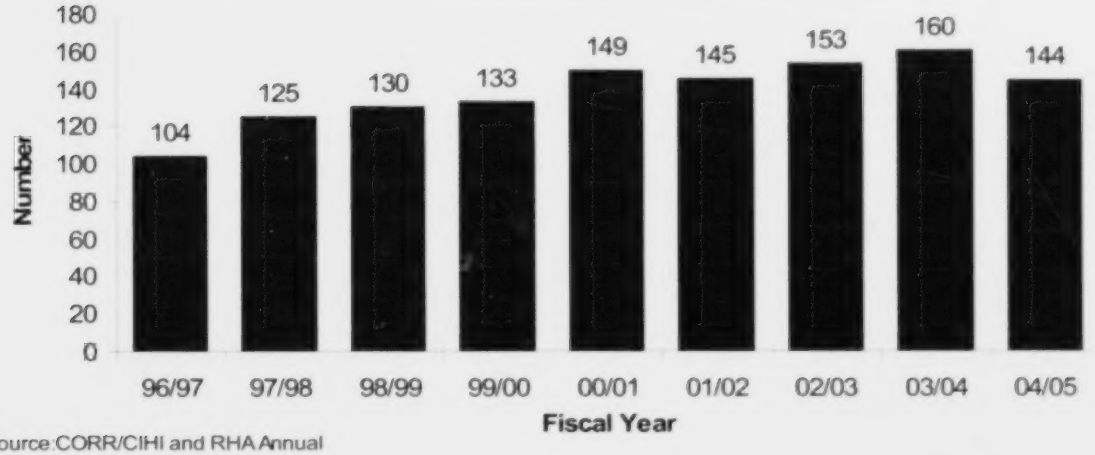
Performed by a collaborative effort of the Tom Baker Cancer Centre and the Foothills Hospital in Calgary, the bone marrow transplant program provides this life-saving therapy for patients recovering from lymphoma, leukemia, or other cancer-related conditions. A bone marrow transplant restores stem cells to a patient who has had theirs damaged or destroyed by chemotherapy and/or radiation. These stem cells are vital for restoring a body's ability to fight infection, as they play a major role in the manufacturing of white blood cells (for fighting infections), platelets (to allow a wound to heal), and red blood cells (essential for providing oxygen to the body).

PWS-funding is directed towards the harvesting and transplant of 'allogenic' bone marrow, that is, bone marrow from a source other than the patient themselves. The alternative, when possible, is for patients to 'bank' their own bone marrow prior to undergoing cancer therapy. This is called an 'autologous' bone marrow transplant, and is generally the responsibility of the Alberta Cancer Board to provide independently.

Potential donors of bone marrow must be matched to the prospective recipient on a variety of genetic and laboratory tests before they are approved as a donor. The majority of work in bone marrow transplantation is non-surgical and takes place in a laboratory before the transplant procedure even occurs.

The annual volume of bone marrow transplants has remained relatively stable over the past 5 years (see Figure 5). The average cost of the hospital care for a bone marrow recipient in Alberta is between $65,000 to $70,000 per patient.

Figure 5: **Historical Alberta Bone Marrow Transplant Volumes**



Source:CORR/CIHI and RHA Annual

Figure 5 shows the historical trend in the number of Albertans who received bone marrow transplants. New drugs emerging for treatment of cancer patients is assumed to be one contributing factor that may reduce the need for some bone marrow transplants in the future.

Trauma and Burns

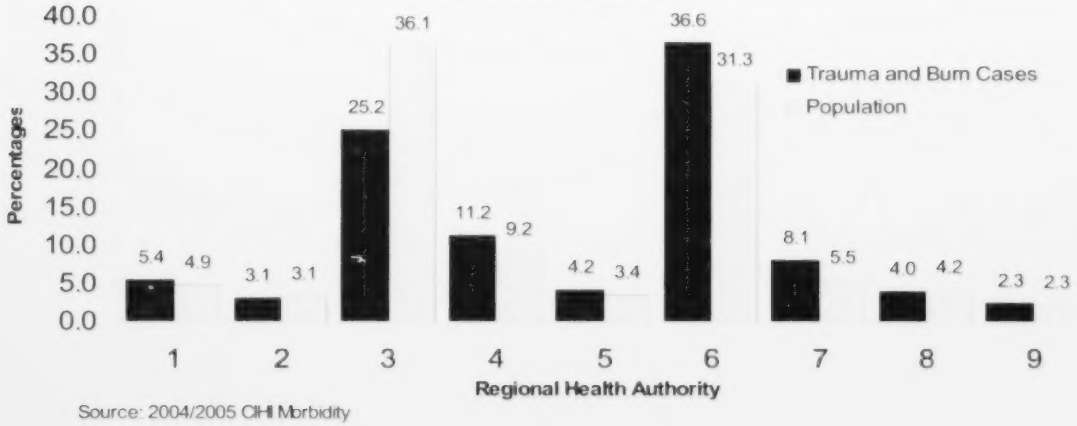
Trauma or Burn patients may sustain their initial injuries from literally endless types of workplace, recreational, transportation, criminal, or household events. Most Albertans will be seen initially by their local hospital, with the most seriously injured usually referred to the major trauma centres in Calgary or Edmonton. Both regions operate burn units, and highly specialized intensive care units to help give patients the best chance at surviving their initial injuries and make the best possible recovery after they are stabilized.

The societal burden of injuries are often overlooked as a major crisis, because they are often not seen as a single, definable issue like a diabetes program or heart health program. In fact, when all forms of unintentional injuries are put together (excludes suicides and assaults), the societal burden on Alberta alone has been estimated at nearly $1.8 billion per year (source: Alberta Centre for Injury Control and Research). This estimate takes into account the costs of care provision (direct costs), lost wages, and other indirect costs associated with the injured person's care.

In fact, most injuries are preventable and predictable, but require people to be aware of how to avoid them. Safe driving habits, managed risk in recreation activities, smoke alarms, and policies to promote safe workplaces are just a few examples of where this societal burden can be lessened through common sense and prevention.

In 2004/2005, a total of 455 trauma and burn patients were funded through PWS, an increase of 10 from the previous year. The average hospital cost for a PWS trauma or burn patient can range from $14,000 up to $122,000.

Figure 6: **Distribution of PWS Trauma and Burn Cases by Patient Region of Residence, 2004/2005**



Source: 2004/2005 CIHI Morbidity

Figure 6 illustrates the distribution of Trauma and Burn patients.

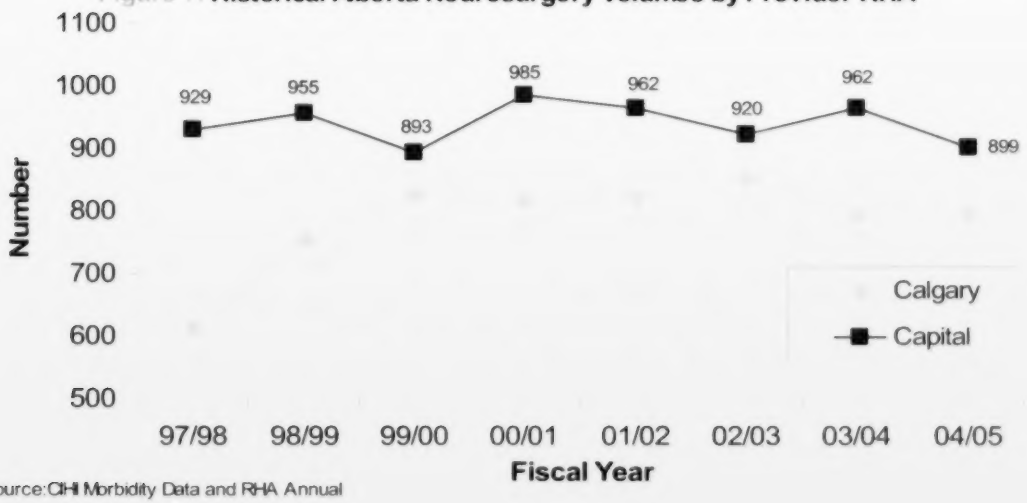
Neurosurgery

Neurosurgery is a fairly broad field of medicine, that includes far more than just surgeries on the brain and spinal cord. It can include any nerves that run throughout the body. The specific surgeries funded through Province Wide Services, however, include only the highly complex and costly procedures like: craniotomies, intracranial vascular procedures, ventricular shunt revisions, and spinal procedures.

Like all PWS inpatient procedures, the specialization of physicians, staff, and facilities required to perform these services requires centralization of services in Calgary and Edmonton. Beyond this, many of these surgeries are considered 'emergent or urgent', meaning they are not the types of patients who can be put onto a waitlist and their surgery scheduled in advance. This can make planning for these services very challenging, as the hospitals must maintain a core level of staff and equipment available at all times, regardless of whether it is busy or not.

Both Calgary and Capital experienced drops in volumes between 2003/04 and 2004/05. Figure 7 highlights the historical unpredictability of patient volumes in this area.

Figure 7: **Historical Alberta Neurosurgery Volumes by Provider RHA**



Source: CIHI Morbidity Data and RHA Annual

Figure 7 shows the historical volumes of neurosurgery cases by the two providing health regions.

Cardiovascular Services

The cardiovascular surgeries funded through Province Wide Services are generally restricted to only the most complex and specialized open heart or angioplasty procedures. Other types of vascular surgery are able to be performed at regional hospitals across the Province, however, the specialized staffing and equipment required to perform the PWS-funded procedures like angioplasty, coronary artery bypass grafts (CABGs), or cardiac valve replacements are most safely and effectively delivered through a limited number of tertiary hospital sites.

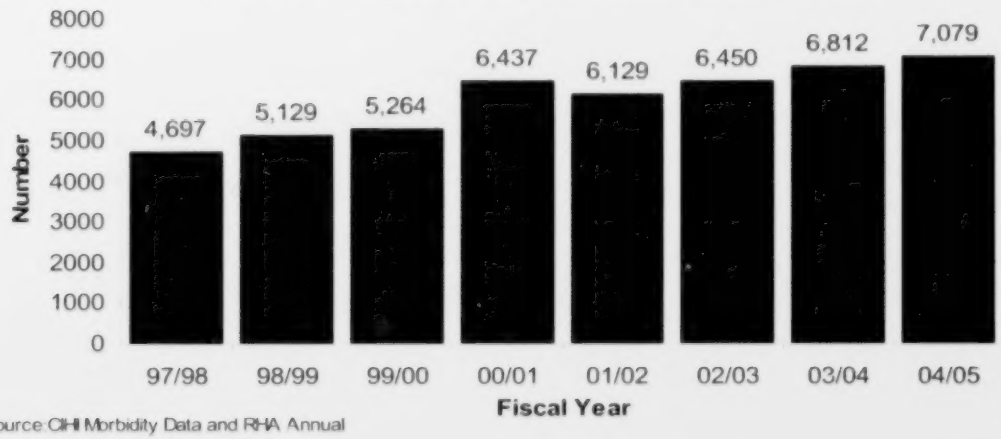
Percutaneous Transluminal Coronary Angioplasty (PTCA) is the area of cardiovascular services growing the fastest, while Coronary Artery Bypass Grafts (CABG) volumes are now in their second consecutive year of decline.

The angioplasty is a far less invasive procedure, which involves the insertion of a narrow catheter with a balloon tip into an artery in the leg or arm. The balloon is guided to the narrowed section of the coronary artery, and is inflated to re-open (also called 'revascularization') the clogged vessel. In many instances, the specialist can use the inflated balloon to expand and leave behind a metal mesh called a 'stent', which provides greater assurance that the vessel won't be able to close back up. The balloon is then deflated and removed, leaving the stent in place, with no need to perform highly invasive surgery.

The CABG, despite declines in overall volumes, is not able to be completely replaced by PTCA. Many patients may still have one or more clogged coronary arteries that are not accessible to a cardiac catheter, or are requiring repair that is beyond what can be accomplished by a balloon or stent. Bypass surgeries are far more complex procedures. They cost between 2 and 4 times more than an angioplasty, as a result of increased time in the hospital recovering from open heart surgery.

Provincial volumes of overall cardiovascular surgery grew 4.5% from 2003/04 to 2004/05, as illustrated by Figure 10. This high growth is predominantly due to 12.6% growth in PTCA volumes. The growth in all other types of cardiac surgery was less than 1%, and even diminishing in the case of CABGs and cardiac valve replacement.

Figure 8: **Historical Cardiovascular Volume Trend**



Source: CIHI Morbidity Data and RHA Annual

Figure 10 demonstrates a consistent growth trend provincially for PWS-funded cardiovascular surgeries.

Cardiac Waitlists

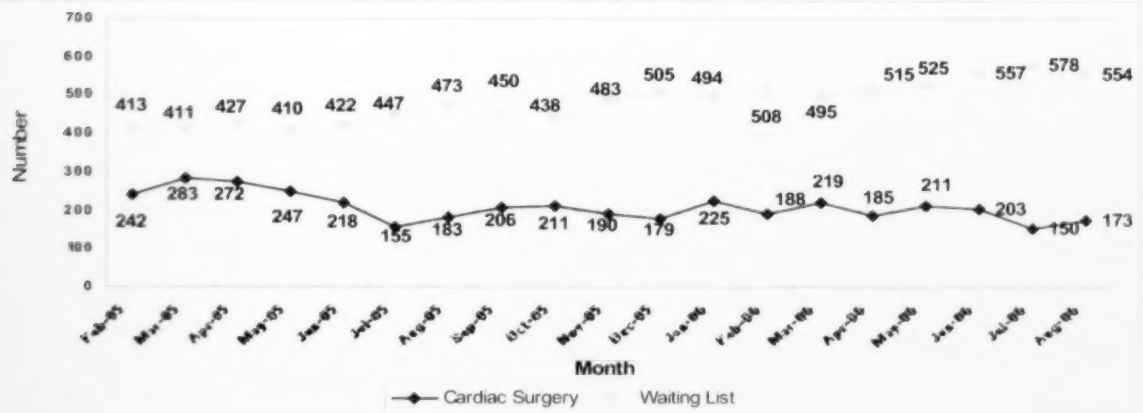
One of the first misconceptions of most waitlists is that all patients are sitting and waiting for life-saving surgery. In fact, the most critical patients who require emergency surgery are never placed onto a waitlist, and are served immediately. The remaining 'non urgent patients are the only people placed onto a waiting list into categories based on their individual urgency, and they are evaluated regularly to assess whether their situation has changed

All Canadian jurisdictions are grappling with issues surrounding waitlists in areas like cardiac surgery, diagnostic imaging, joint replacements, and many other important surgical services. In most cases, the greatest issues arise not from a lack of agreement that waiting times should be reduced, but rather how to measure them in a way that is comparable from region to region, province to province, and even between countries. Initiatives like the Western Canada Waitlist Project and the Wait Time Alliance have proposed waiting time targets for provinces to aim for, which are based on sound clinical advice. From a measurement perspective, however, the variety of agencies, private physician offices, and surgery booking systems that all must play a part in effectively measuring wait times are still striving toward consistent data collection.

The development of the Alberta Waitlist Registry as a web-based tool for collecting data from the health regions and physician offices has been a big step forward in bridging the differences between scheduling systems from one jurisdiction to the next.

Changes to the data collection over the past 3 years makes interpreting trends from the cardiac wait time data difficult. After 3 consecutive years of improvements in the waitlist for cardiac surgery, Figure 11 demonstrates that there has been a gradual increase in number of people waiting in 2005. This data is now available online to the public through the Alberta Waitlist Registry *(www.ahw.gov.ab.ca/waitlist/WaitListPublicHome.jsp)*. The construction of the new Mazankowski Heart Institute in Edmonton is expected to increase surgical capacity in the near future, and reduce the waitlist proportionately.

Figure 9: Adult Cardiac Surgery Volumes and Number of Persons Waiting
February 2005 to August 2006



Source: Alberta Health and Wellness, Waitlist Registry

Neonatology

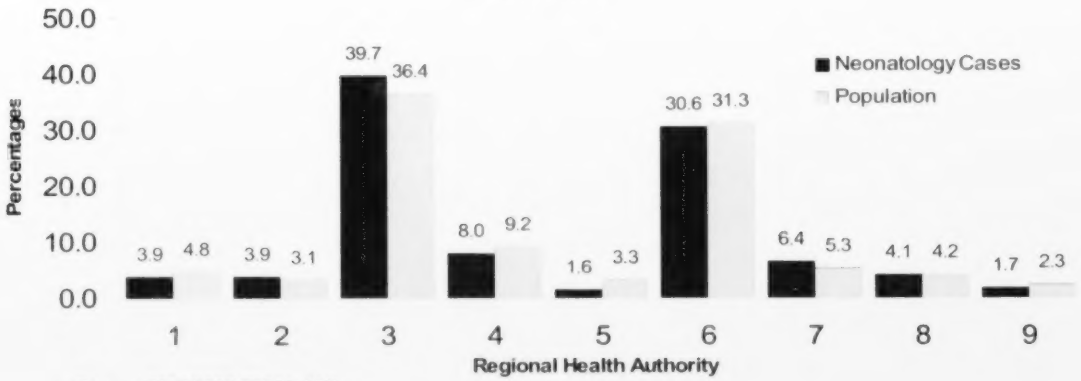
More than 95 per cent of babies born in Canada have a birthweight of at least 2.5 kilograms (5.5 pounds). This cutoff point is known to be a key measure of healthy birthweight. Below this point, there are increasing levels of risk for conditions like respiratory problems (i.e. asthma), vision difficulties, cerebral palsy, and even death during the first year of life.

PWS funding is provided for the inpatient care of all infants born with a weight less than 1500 grams (3.3 pounds), and any child with a weight between 1500 and 2499 (5.5 pounds) grams who also has a life threatening complication. Most other frail neonates can safely and effectively be treated by the special care nurseries at regional hospitals throughout the Province, so the funding of their care is provided through population-based funding to all regional health authorities.

The average cost of treating an extremely small neonate (less than 750 grams) in hospital was $95,000 in 2004/05, but these costs are prone to very high fluctuations, depending on the needs of the individual child. There were 164 such children cared for with PWS funding in 2004/2005. All other PWS-funded neonatology cases, a total of 442 newborn infants, had an average cost of $46,000 each for their hospital stays.

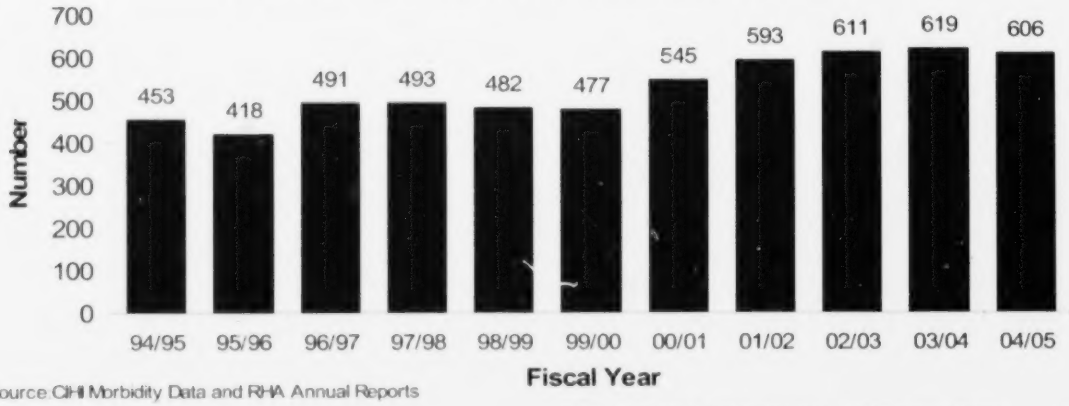
Figure 12 illustrates the proportion of PWS-funded neonates by the region where their family resides, versus that regions proportion of the provincial population. Figure 13 shows the trend in overall low birthweight neonates appears to have flattened off in recent years.

Figure 10: **Distribution of Neonatology Cases by Region of Residence, 2004/2005**



Source: 2004/2005 CIHI Morbidity

Figure 11: **Historical PWS Neonatology Volumes**



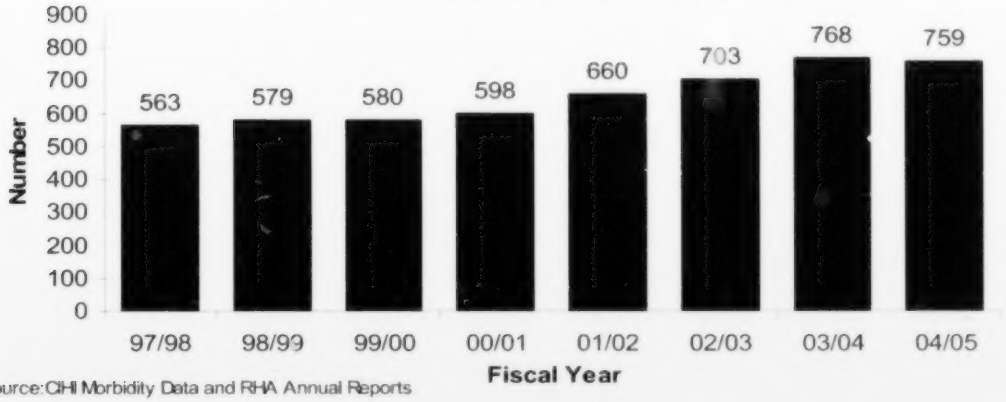
Source:CIHI Morbidity Data and RHA Annual Reports

Oncology

Oncology is the field of medicine devoted to the study and treatment of cancer. In Alberta, most cancer services are delivered directly by the Alberta Cancer Board through it's hospitals and satellite clinics across the province. In a small minority of surgical procedures, however, the surgical treatment must be provided at one of the tertiary hospitals in Calgary Health Region or Capital Health. These include lung resections, back and/or neck surgeries, joint replacements, adrenal and/or pituitary procedures, hysterectomies, and vulvectomies.

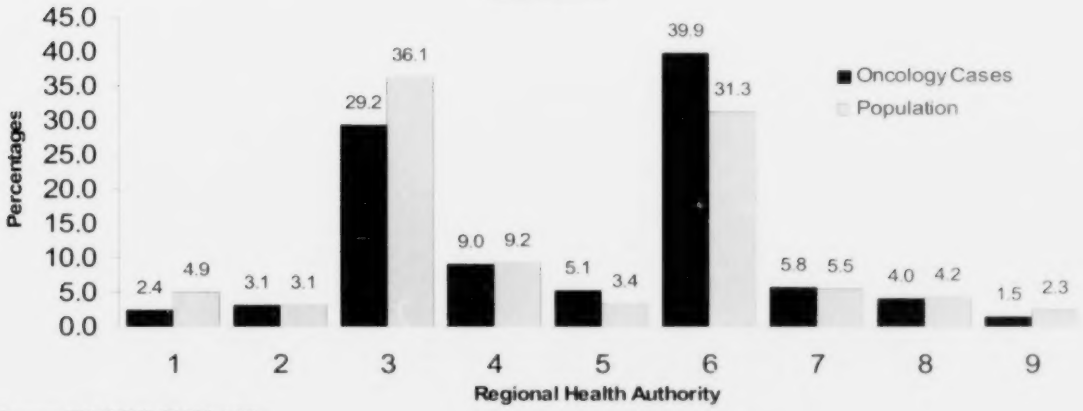
Figures 14 and 15 illustrate the growth trend in PWS-funded oncology and the provincial distribution of recipients of these services.

Figure 12: **Historical PWS Oncology Volumes**



Source: CIHI Morbidity Data and RHA Annual Reports

Figure 13: **Distribution of Oncology Cases by Region of Residence, 2004/2005**



Source: 2004/2005 CIHI Morbidity

Special Feature Reports

Each year, this section of the report is made up of submissions authored by individual PWS programs themselves, allowing them to highlight some of their recent accomplishments and their plans for the future. This year, we are pleased to have the following programs providing articles for this report.

I. Northern and Southern Alberta Renal Programs (NARP and SARP) – a joint submission of the Calgary Health Region and Capital Health.

II. Northern Alberta Neonatal Intensive Care Program (NANICP) – an article from Capital Health on their high-risk obstetrical and specialized surgical/medical services for neonates.

III. End-Stage Renal Disease Program (ESRD) – an article from Calgary Health Region on their prevention efforts to identify and treat patients with early signs of kidney failure.

Northern and Southern Alberta Renal Programs

Calgary Health Region and Capital Health (Joint Submission)

The Northern Alberta Renal Program (NARP) and Southern Alberta Renal Program (SARP), collectively provide all end stage renal care to the residents of Alberta. Renal care provided by NARP and SARP requires highly specialized medical interventions, including, but not limited to, dialysis and transplantation. Due to the high volume and complex needs of patients involved in these programs, and the required specialized expertise and supporting infrastructure, renal care funding is provided from Province Wide Services.

Capital Health's Northern Alberta Renal Program serves a catchment area encompassing central and northern Alberta, (Regions 4 through 9), as well as northwestern Saskatchewan. The patient population of the NARP includes both pediatric and adult patients. Services include consultative nephrology in inpatient and ambulatory care settings, hemo and peritoneal dialysis, renal transplantation, acute inpatient care, preventative programs, patient and professional education, research and a centralized administration of the program. The NARP has partnered with all of the northern health regions to deliver several aspects of renal care, from hemodialysis to prevention. Satellite dialysis units are located in the communities of: Rocky Mountain House, Red Deer, Stettler, Wetaskiwin, Drayton Valley, St. Paul, Vegreville, Lloydminster, Westlock, Slave Lake, Grand Prairie, Peace River, High Level, and Fort McMurray.

Similarly, the Southern Alberta Renal Program provides renal care to the residents of Southern Alberta (Regions 1- 4). The patient population includes both pediatric and adult patients. The services provided are chronic kidney disease management for patients with early kidney disease, and treatment for end-stage kidney disease, including hemodialysis and peritoneal dialysis. The SARP works collaboratively with the Diabetes and Living Well programs within the Calgary Health Region to reach a large number of patients at risk for Chronic Kidney Disease (CKD) and to support primary care providers in caring for CKD patients. The SARP satellite dialysis units are located in the communities of: Olds, Drumheller, Hanna, Medicine Hat, Lethbridge, Fort McLeod, and a brand new unit in Crowsnest Pass (Blairmore).

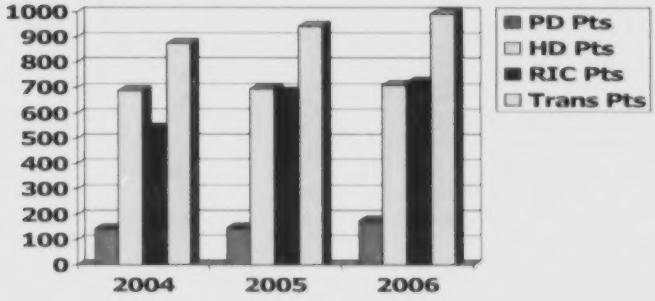
Program Achievements

In an effort to enhance treatment for rural patients, the NARP endeavors to serve patients close to or in their homes and as such has a growing home therapies program. The NARP piloted the first nocturnal hemodialysis program in western Canada through a Health Innovation Fund Grant established in 2001. Research and evaluation of the Home Nocturnal Hemodialysis Project was conducted. The NARP is pleased to report that the overall cost for nocturnal hemodialysis is lower than conventional dialysis and provides better health outcomes. Home nocturnal hemodialysis is now offered as a treatment option for all patients and enhances the NARP's ability to treat patients in their home community.

Increasing the availability of home therapies was a priority in the NARP's 2001, five-year plan and this has been achieved with the creation of the home hemodialysis program and with growth in the Peritoneal Dialysis (PD) program. The NARP has achieved a 14% growth from the previous year in the number of patients electing PD as their treatment choice. One quarter of NARP dialysis patients are on PD.

The NARP is pleased to report on many successes in the program over the last few years. Several new dialysis units have been built, including 4 in the last calendar year in the rural communities of Stettler, High Level and Slave Lake and at the Grey Nuns Hospital in Edmonton. Telehealth technology is becoming a mainstay of treatment for the NARP, as portable Telehealth technology is being added to all remote satellites. The addition of this invaluable resource will allow patients additional contact with their health providers in Edmonton without having to endure the cost and time of a trip to Edmonton.

NARP Trends



2004 & 2005 at fiscal year end, 2006 at February 28, 2006

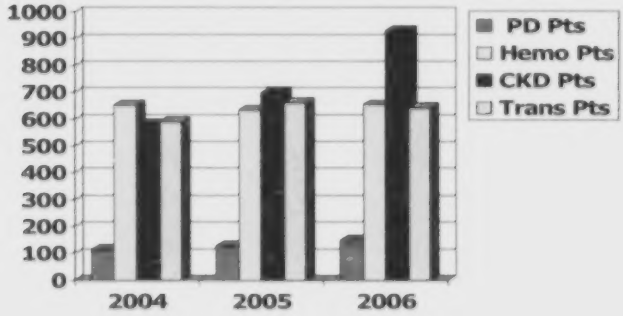
Current trends regarding activity in the SARP also show stable growth in the hemodialysis program (again this could be interpreted as a negative), increased numbers of patients on peritoneal dialysis, and continued significant growth in the CKD patient population related to improved access, better identification of CKD patients requiring referral to the SARP, and improved outcomes related to delaying the progression of the disease.

The SARP also supports the philosophy of promotion of independent therapies, including peritoneal dialysis, home and nocturnal hemodialysis. Twenty-four percent of dialysis patients are on independent therapies. The nocturnal hemodialysis program was established in 2004 concurrently with a research study to examine the health outcomes of this treatment modality.

The nocturnal hemodialysis programs in the NARP and SARP will continue to grow due to the enthusiastic support of patients, staff and physicians.

The SARP was pleased to receive full hospital accreditation in 2005. As well, in the last year the SARP completed conversion of all hemodialysis units to new hemodialysis machine technology

SARP Trends



Opening Ceremony for New Dialysis Unit in Crowsnest Pass

and conversion is underway for home/nocturnal/ self care hemodialysis patients. Finally, the SARP completed a sustainability review, examining capacity and demand for hemodialysis in southern Alberta, and a comprehensive review of hemodialysis operations including staffing and patient scheduling within one hemodialysis unit.

Initiatives

There are many common initiatives underway in both the northern and southern programs related to renal care. Both the NARP and SARP are embarking on initiatives to improve treatment for patients with end-of-life or palliative care needs. The NARP has recently formed a multi-disciplinary working group to evaluate the current status of end-of-life care and devise a plan to offer better options to patients. The SARP is piloting a Care at End of Life program called "Respecting Choices" in collaboration with the Palliative Care Program in the Calgary Health Region. A multidisciplinary team is involved in the pilot.

The NARP is involved in a number of initiatives with two main foci: To ensure patients are treated close to home; and to prevent or delay the onset of end stage renal disease. The NARP has created a Diabetic Nephropathy Prevention Program -- an initiative to treat patients in early stages of diabetes to prevent progression to renal failure. The NARP and Capital Health have partnered with several surrounding health regions to offer this service in communities including Edson, Hinton, Red Deer, Vermillion and Wetaskiwin. NARP nephrologists are also planning to offer regular, preventative and consultative renal clinics in rural communities. A new model of care has been implemented at the NARP's Aberhart dialysis unit in Edmonton. This unit is open 24 hours a day, 7 days a week and provides a variety of flexible treatment options.

Over the past five years, the SARP has focused increasingly on providing services to patients in the community and closer to home. Chronic Kidney Disease and Peritoneal Dialysis clinics have been established in Medicine Hat and Lethbridge. This allows patients to be followed in their rural community rather than traveling to Calgary. There have been a number of hemodialysis units developed in the past four years in various rural locations including Olds, Blairmore and Drumheller to enhance services to those communities. In total, the SARP operates seven hemodialysis units outside of Calgary including Fort Macleod, Lethbridge, Medicine Hat, and Hanna.

Relocating services to the community has been a focus for the SARP within Calgary as well. Greater than 60% of hemodialysis patients now receive treatment outside of an acute care facility. The percentage of patients outside an acute care facility in the NARP is similar at 66%. This approach is more cost effective, improves patient quality of life and satisfaction with services and ensures adequate access to acute care hemodialysis units for patients who required increased medical surveillance and care. There are four community units established in four quadrants of the city.

The SARP is involved in a number of initiatives that will impact how the program provides care. The CKD innovation project has implemented enhanced group education to support patients/ family in decisions related to selecting independent therapies as the best treatment option. The second part of the project is central referral/triage to improve access to nephrology and meet the needs of patients and primary care providers. The initiative also includes an outreach program specifically supporting the aboriginal communities.

Challenges

Workforce planning will continue to be an important challenge for both programs, ensuring adequate and appropriate staffing levels. The SARP will continue the implementation of its electronic health record (PARIS) while integrating with the Calgary Health Region patient care information system. The NARP is making modifications to an early version of the SARP information system, called Nephrology Information System in the NARP, so that it may be integrated into the program. The NARP continues to work with the Capital Health region to ensure proper integration between NIS and the Region's new electronic health record netCARE which is also being used as the platform for a province wide electronic health record.

Future Direction

Providing care to the rural population continues to be a priority for both programs. New hemodialysis units are in constant demand from communities who do not have a hemodialysis unit, or have constituents who are required to travel for their treatments. Both programs continually evaluate these requests and build new units where appropriate. Additionally, an increased focus on prevention is a priority for both programs. New program options such as the Diabetic Nephropathy program in the NARP will be expanded and offered at rural sites.

Gorgeous mountain view from the new Crowsnest Pass Satellite Hemodialysis Unit.

Northern Alberta Neonatal Intensive Care Program (NANICP)

Capital Health

The Northern Alberta Neonatal Intensive Care Program (NANICP) provides tertiary and quaternary levels of care (e.g. cardiac surgery) for newborns on two Capital Health Sites: the Royal Alexandra Hospital NICU Site (61 beds supporting the high-risk obstetrical program at the Royal Alexandra Hospital) and the Stollery Children's Hospital NICU Site (14 beds supporting neonates requiring pediatric surgical/ medical sub-specialty services and the Prairie Province Neonatal and Pediatric Cardiovascular Program). The NICUs work in collaboration with two in-region Intermediate Care Nurseries located at the Misericordia (12 beds) and Grey Nuns Community Hospital Sites (18 beds). The population served is high-risk, critically ill premature and low-birth weight newborns, requiring life-saving and life-sustaining treatment; those with congenital anomalies or requiring assessment by specialists and sub-specialists; and newborns requiring specialized medical or surgical care.

In addition to serving the needs of the Capital Health region, NANICP provides an entry-point to the system for newborns who originate out-of-region, for example from: Northern Alberta (e.g. Red Deer, Ft. McMurray, Grande Prairie), and other regions or provinces for patients requiring the specialized tertiary and quaternary services (e.g. British Columbia, Manitoba, Saskatchewan, Yukon, Nunavut and the Northwest Territories). To this end, NANICP operates a Neonatal Transport Team that travels by land or air locally or to out of region Sites to conduct the initial resuscitation and stabilization of high-risk newborns, and the transfer of the patient to the NICUs for specialized care. More than 50% of the

newborns transported by the team are from outside the Capital Health Region.

The total number of NICU days for the 04/05 year was 22,466, up 4% from the 03/04 year, and 12% from the 02/03 year. Despite this increase in activity, the NANICP boasts some of the best outcomes for critically ill newborns in North America, with the overall mortality rate for patients served consistently 3% or less for the last 10 years.

A particularly vulnerable population cared for by NANICP includes infants born weighing less than 750 gm. As these infants are extremely premature, they are at risk for developing problems with infection, adequate ventilation, and brain injury. Accordingly, in addition to cutting edge technological care, NANICP has taken measures to provide an environment that is supportive of appropriate growth and development of these newborns although they are born many weeks before their due date. In May of 2000, the renovated NICU at the Royal Alexandra Hospital Site was opened. This unit was specifically designed to allow for the control of noise, light and activity that is characteristic of intensive care and decrease the amount of adverse stimulation to these newborns. At the same time, a grant-funded research study examining the influence of developmentally appropriate care provided by specially trained staff (in addition to a developmentally appropriate environment) on outcomes for very low birth weight, premature newborns was commenced. Developmentally appropriate care is care that is responsive to newborn cues and avoids subjecting the infant to stressors and stimuli that can overwhelm the infant's ability to cope and maintain a physiologic steady state.

The study results, which were recently released, demonstrated that patients who received developmentally supportive care required significantly fewer days of mechanical ventilation and had a shorter length of hospital stay, both highly desirable outcomes. The findings from this research are being translated to practice. Additional staff are being trained and parents are now taught to read their baby's cues, and to participate in providing developmentally appropriate care.

These outstanding results in mortality and outcomes do not only come from delivering clinical services. Besides providing the largest variety of Neonatal services of all Canadian centers, our program is also grounded in a strong academic foundation. For teaching, we provide the main support for a Neonatal Nurse Practitioner Program at the Master's level (one of only two programs in Canada), while for Medicine; we have a strong fellowship program which allows trainees to obtain a Master's or PhD degree. For research, we have strong, world-renowned basic researchers and are home to the Canadian Neonatal Network. However, the best evaluation our program receives is from parents: each parent receives a survey after discharge, and they have consistently given us a score of more than 9 out of 10 over the last 5 years. We are grateful for our success and thank everyone for their support.

Prevention of End-Stage Renal Disease Program

Calgary Health Region

The incidence and prevalence of End-Stage Renal Disease (ESRD) have increased greatly in Canada over the last 2 decades. The continued growth of the ESRD population poses a challenge for policy makers and health care providers because of the high cost of renal replacement therapy, high mortality rate and the effect on the patients' quality of life. Recognizing that prevention strategies play a key role in addressing the significant human and fiscal burden of the ESRD, in 2002, Province Wide Services committed $1.5 million to the Prevention of End Stage Renal Disease program for the Southern Alberta Health Regions.

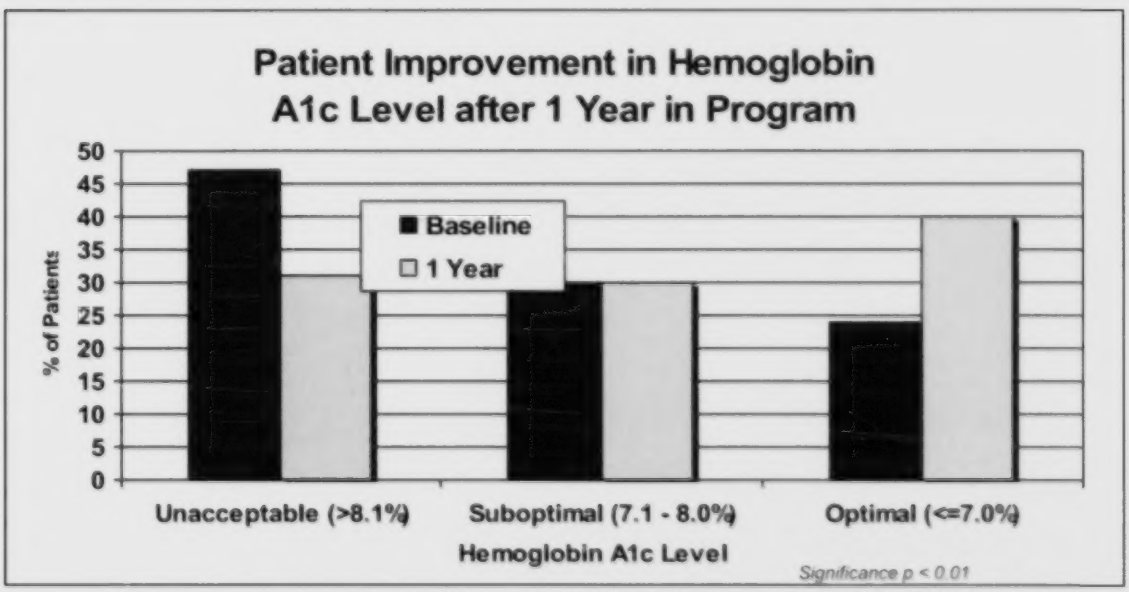
The initial PESRD project represented an innovative diabetes management strategy centered within family physician practices. The program aimed to prevent end-stage renal disease through a collaborative and multidisciplinary approach directed at enhancing individual and family capacity to effectively manage patients living with diabetes, hypertension and dyslipidemia and early identification of renal disease.

During 2002-2004, the program piloted and evaluated two different service delivery models of care. These two models utilized multidisciplinary patient care teams, but the teams had different expertise and therefore different relationships to the primary care physicians and patients. During the two-year pilot project, sixty family physicians and nurse/dietitian teams across the two models, provided service to approximately 842 patients. The pilot project also expanded to the Southern Alberta Health Regions (Chinook and Palliser).

Evaluation was ongoing in the project, including qualitative and quantitative measures. Results have indicated that this primary care based teams identified early renal disease and improved patient self-management of diabetes and hypertension.

Hemoglobin A1c is a blood test that measures a diabetic person's average blood sugar level over the past 2-3 months. It assess overall diabetes control and is a predictor of long-term complications (i.e. higher the A1c level, higher the chance of developing complications).

As shown in Figure 1, the percentage of the patients with optimal A1c levels (<=7%) increased



from 24% at baseline to 40% 1-year post intervention. Research indicates that 50% of End Stage Renal Disease can be avoided by proper diabetes management and control. Therefore, the significant improvement in A1c levels may be clinically significant from the perspective of reducing the risk of renal and other diabetes-related complications.

Strong and positive aspects of each model were identified and ultimately, a single model providing optimum community care to prevent ESRD was developed in June 2004. This new combined model of care incorporated concepts related to the region's Chronic Disease Management Model. The goal of the sustained new model is to provide access to more physicians and patients within the Calgary Health Region

In order to expand this program to a greater number of family physicians and patients, in September 2004, the PESRD program moved into operation within the Calgary Health Regional Chronic Disease Management Program.

In this new and integrated model of care, multidisciplinary teams consisting of Nurse Clinicians (from Diabetes Education Centre), Community Care Coordinators (from Home Care), and Dietitians, Exercise Specialists and Social Workers (from the Living Well with a Chronic Condition Program) work in community-based sites and family physician offices to provide community based and family physician centric services for improved management of patients with diabetes/hypertension and early identification of renal failure.

The new program has increased the access of the family physicians to specialist expertise and support by having regional staff from acute care specialty clinics see high risk/complex patients. The implementation of a comprehensive Electronic Chronic Disease Management Information System has allowed all providers across the continuum of care to communicate with each other and monitor care.

In 2004-2005, as part of the newly established Living Well Program, diabetes specific education was offered at 7 sites and hypertension education at 3 different locations in Calgary. The main purpose was to provide group diabetes and hypertension education and improve access to the community.

The number of participating physicians and patients at the Calgary Health Region has significantly increased as a result of the new integrated model of care and with a more efficient and accurate data management process. During 2004-2005, 143 physicians participated in the program and the multidisciplinary teams provided diabetes/hypertension management services to nearly 2,000 patients across the Southern Alberta Health Regions. It is anticipated that the number of physicians, patients and the sites offering diabetes/hypertension services will increase further as there will be more new family physicians who will partner with the program.

The exact impact of the PESRD program in terms of preventing or delaying the end stage renal disease is very difficult to estimate. At least 5-10 years of operation of the program is needed to demonstrate the long-term effectiveness of the interventions. However, based on the positive outcomes of the program in terms of improved screening and early identification of the patients who had potential to progress to ESRD, and effective diabetes/hypertension management strategies, it is expected that this program has potentially decreased the number of patients progressing to ESRD. The effectiveness of the program will continue to improve yearly to maximum benefit.

Registered Dietician provides nutritional counselling

PROVINCE WIDE SERVICES

Clinics and Home Services

Clinics and Home Services

The Province Wide Services Clinics and Home Services area includes: pre and post transplant activities, islet cell transplants, renal dialysis and dialysis prevention, HIV and STD/TB Clinics, genetics testing and clinics, children with complex healthcare needs (CCHN), craniofacial osseointegration (COMPRU), the poison and drug information service (PADIS), and pediatric transport.

Renal (Kidney) Dialysis

Overview

In Alberta, responsibility for provision of renal clinics and services falls to the Northern and Southern Alberta Renal Programs (NARP and SARP). NARP is managed from the University of Alberta Hospital site, as a program of Capital Health, but is mandated to care for renal patients from Red Deer to the Northern border of Alberta. SARP is administered by the Calgary Health Region, and takes responsibility for renal patients South of Red Deer to the US border.

This year, we have been fortunate enough to have a jointly-written article provided by NARP and SARP as one of our Special Feature Articles at the centre of this Annual Report. It provides a great overview of the steps these programs have taken and their future plans for renal services in Alberta.

The range of services provided by the renal programs includes: health promotion, renal failure clinics, hemodialysis, peritoneal dialysis, home-hemodialysis, and transplantation.

Both programs operate some form of dialysis prevention program, which targets Albertans who are showing early signs of kidney failure or have significant risk factors for developing kidney disease. These risks might include unmanaged hypertension, diabetes, or even genetic conditions known to leave a person at high risk for kidney failure. More information on the Dialysis Prevention programs appear later in this report.

The renal programs both provide ongoing care to patients with end-stage renal disease, meaning patients who have been diagnosed with renal failure but do not yet need dialysis or transplantation. The goal for these patients is to slow the progression of their disease, monitor their progress through in-person clinic visits, check their labwork, and generally prepare them for the variety of treatment options they will need to consider if and when their kidneys fail.

For patients who have progressed to full renal failure, the programs assist them in choosing from the variety of treatment options available. With the exception of those who are able to receive a transplanted organ from a living donor to pre-empt the need for dialysis, most patients will go onto a transplant waiting list and then choose from a variety of dialysis options that best suits their medical and lifestyle needs. These options include:

- Incentre hemodialysis - this is the most expensive form of dialysis, and is generally reserved for the most medically unstable patients who require constant professional monitoring and proximity to a regional or tertiary hospital.
- Satellite hemodialysis - essentially the same therapy as incentre, but can be provided in a less costly setting like a rural hospital site or even a stand-alone non-hospital site, with monitoring by specially trained nurses and technicians.
- Home or Nocturnal Hemodialysis - there are a variety of home-based hemodialysis options, but all involve a great deal of independence and medical stability on the part of the patient. Patients may dialyze up to 7 times a week, preventing the need for travelling to another town for treatment, but also allowing them greater energy by dialyzing for less time, but more frequently. Both renal programs are actively promoting home hemodialysis, since this therapy has recently gone through a series of successful evaluations, indicating it is both cost-effective and promotes a better

quality of life than other facility-based hemodialysis options.

- Peritoneal Dialysis - the only form of dialysis that does not involve a hemodialysis machine to filter the blood. It is the least expensive form of dialysis, but does involve numerous fluid exchanges throughout the day. Nearly a quarter of all dialysis patients choose peritoneal dialysis because of the freedom from facility-based care, and the ability to live in more remote areas.

The high growth in the number of patients dialyzing over the past 10 years (see Table 5) is believed to arise from a variety of factors. The most significant factors are the sustained growth in people living with hypertension and/or unmanaged diabetes. Both of these conditions are well known to impact on kidney function, especially if they are allowed to continue unchecked for years. Another factor in the growth of this patient population has been the life extension of those who are living on dialysis. Relatively speaking, there are less people dying on dialysis than there were 20 years ago, so there is an ever-increasing pool of patients who require this treatment.

New satellite dialysis units opening in Stettler, Slave Lake, Crowsnest Pass, and High Level are just a few examples of the significant steps both renal programs have taken towards making dialysis services as readily available as possible for all Albertans. It is not financially or logistically feasible to provide these expensive therapies in every town in Alberta, so the programs are constantly evaluating their patient populations to see if there are better ways to serve dialysis patients in remote areas. Generally, a satellite dialysis station needs a certain number of patients to warrant the construction costs, staff training, and ongoing maintenance of providing these services, and these criteria are also regularly being reviewed.

Figure 17 shows a map of Alberta and the location of all the dialysis stations across the Province. More rural and urban satellite units are in the planning stages, and even the potential for mobile dialysis stations is a possibility under evaluation for future years.

Table 5: **Historical Hemodialysis Runs by Program**

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
Capital (NARP)	56,942	63,709	69,360	79,715	91,715	102,848	107,629
Calgary (SARP)	59,243	69,775	74,234	82,165	89,768	99,833	100,614

Source: CH and CHR PWS Annual Reports

Figure 14: Hemodialysis Centres in Alberta (March 2005)

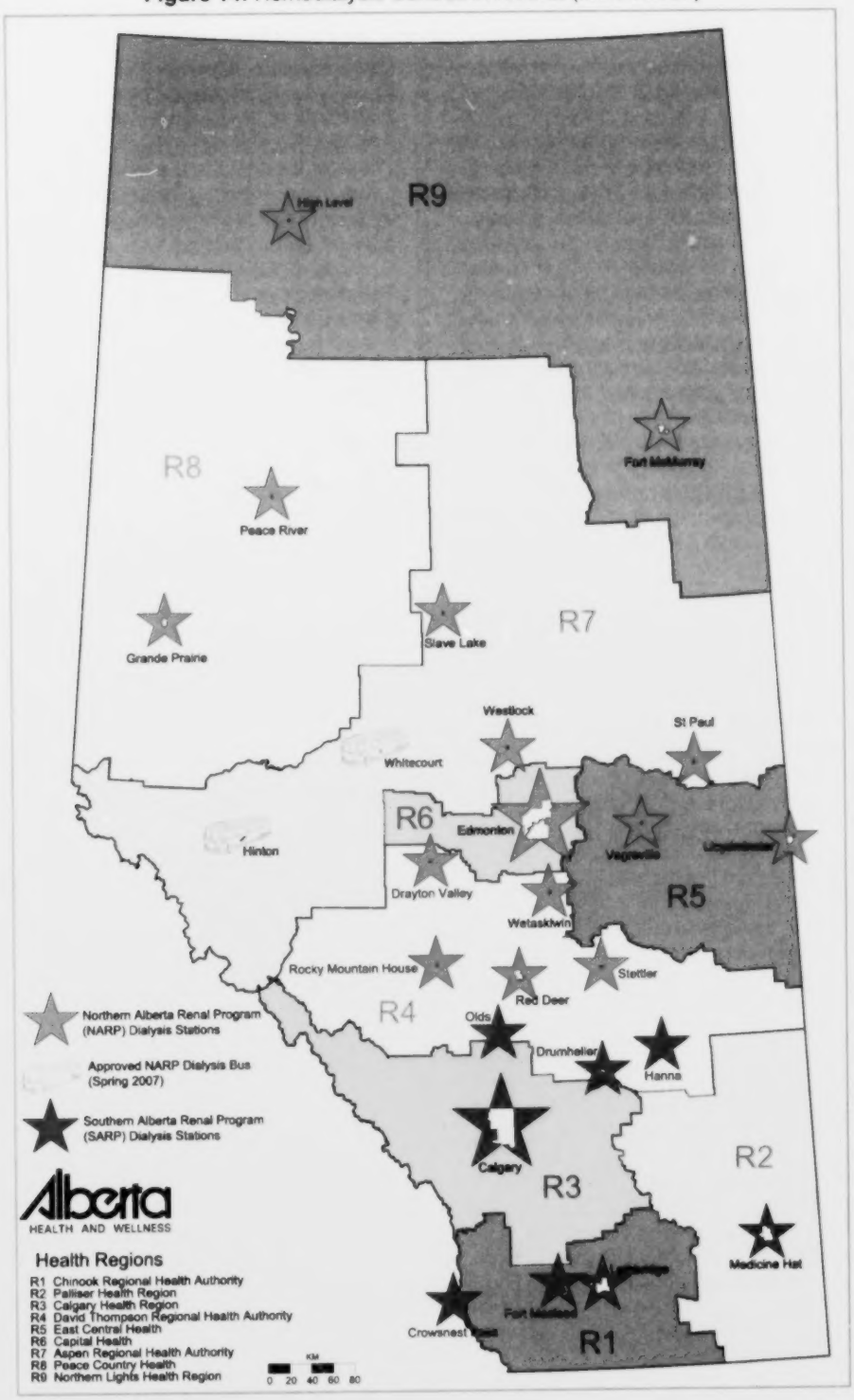


Figure 14

Dialysis Delay/Prevention

Significant growth in the number of Albertans requiring hemodialysis, and the recognition that kidney failure could be delayed or even prevented for many patients, led to the establishment of this prevention program supported by PWS funding. Operated under the auspices of the Northern and Southern Alberta Renal Programs, the dialysis delay programs focus very heavily on identifying patients at risk from conditions like hypertension, unmanaged cholesterol, and diabetes, which are known risk factors for eventual kidney failure.

As with other chronic disease management models of care, there is a strong emphasis through these programs on lifestyle modification. This may include encouraging healthier eating, exercise, medication to control blood pressure, or any number of methods for slowing the progression of the disease. In 2004/2005, there were over 2,000 active patients being followed by one of the two dialysis prevention programs. New clinics locations are being planned for 2006/07, and the number of patients being followed is expected to rise in future years. These programs are a positive model for the future of healthcare, offering cost-effective early intervention to prevent or delay debilitating and costly diseases in the future.

The dialysis prevention program operated by the Calgary Health Region has provided one of the special feature articles for this year's report, which highlights some of its successes. Their article is located at the centre of this report.

Pre- and Post- Transplant

For patients living with organ failure or bone-marrow treatable conditions, the actual transplant surgery is only one of the many steps that must occur to improve the long-term viability of the new organ or tissue. As soon as patients are deemed to be eligible for transplant, they undergo many laboratory and diagnostic testing to ensure a suitable donor match is found. For patients fortunate enough to have living family members able to donate a kidney, lung, or bone marrow, much of the same testing must be completed by the donor as well.

After transplantation, the patient is followed up by clinics and specialists for the rest of their lives. These clinics monitor drug levels, nutrition, weight gain, blood pressure, and a variety of laboratory measures to gauge the ongoing health of the transplanted organ. The end goal of these clinics is for patients to be as healthy as possible, while preserving the viability of their transplant. For many patients, the medications they must take to protect their transplant can have a number of side-effects, most notably an increased susceptibility to infections.

As of March 31, 2005, there were a total of 2,156 Albertans living with an organ transplant and being followed by the transplant clinics. An additional 1,020 patients were waiting for an organ to come available, or were being actively followed by the renal programs with diagnosed renal failure.

For 2006/2007, the Ministry of Health and Wellness, through Province Wide Services, has provided $18.4 million to Capital Health and Calgary Health Region to help provide this range of services.

Islet Cell Transplant

The Islet Cell program is very closely associated with the other organ transplant programs. Islets cells are harvested from a pancreas of a cadaveric donor, in exactly the same way as a solid organ pancreas transplant. The major difference is a whole host of laboratory procedures performed on the solid organ in order to harvest strictly the islet cells. This isolation process is highly specialized, and the most successful method of obtaining these cells was developed right in Edmonton, Alberta by a clinical research team at the University of Alberta Hospital. This world renowned technique has been named "The Edmonton Protocol", and the original researchers are sought after for training worldwide as other countries begin to develop their own islet programs.

In 2004/2005, PWS provided $2.95 million to Capital Health for the provision of a projected 30 islet transplant procedures. By year end, due to lower than anticipated availability of donor pancreas, the program was only able to provide 16 transplants. For 2006/07, funding of $1.8 million has been provided through Province Wide Services for provision of islet cell transplants.

As with other transplant programs, a major limiting factor to being able to treat all eligible patients is the lack of available organs. For transplant recipients, outcomes after one year have been very good, with greater than 80% of patients continuing to be insulin independent. Challenges may still exist in achieving long-term viability of the transplanted tissue. This is an active field of research worldwide, where new techniques and therapies continue to evolve.

Medical Genetics

The field of medical genetics is revolutionizing the field of medical care in its ability to assist with diagnosing and treating a rapidly growing list of medical conditions. From screening over 99% of all newborn infants in Alberta for a range of genetic conditions, to providing therapies and counselling to patients with confirmed conditions, Province Wide Services funding is provided to the Departments of Medical Genetics at both the Universities of Alberta and Calgary to fulfill these vital roles.

In the Calgary-based genetics programs, genetics specialists work in both the Alberta Children's Hospital and the Foothills Medical Centre for testing and clinics. In Edmonton, all geneticists are working in and around the University of Alberta Hospital site. Both programs provide testing and clinics in the areas of molecular genetics, cytogenetics, and metabolic disorders.

The Newborn Screening program alone, operated out of Capital Health in Edmonton, tested over 40,000 infants across Alberta in 2004/2005. They are currently testing for just 3 potentially life-threatening or disabling conditions, but this list is currently under review, and may be expanded in the future. New laboratory methods, and new technology like the tandem mass spectrometer are opening up many opportunities for early diagnosis and intervention of genetic disorders.

The goal of newborn screening is to make earlier identification of treatable illnesses, and to delay or even prevent the development of permanent disability or even death. Without the screening programs, there would assuredly be a certain number of children who would die of their conditions, and many more who would suffer permanent physical or mental impairment. In the case of one of the most common screening tests internationally, a common amino acid called phenylalanine is unable to be properly processed by the body because of an enzyme deficiency (PKU). Early detection of this disease in the first week of life, and something as simple as diet modification, can be the difference between healthy growth and permanent disability.

From an overall activity perspective, most areas of genetics testing saw very modest or even negative growth between 2003/2004 and 2004/2005 (see Table 6). From a funding perspective, however, the costs of providing therapies for an ever-increasing pool of patients with genetic conditions are the primary cost driver for this program.

Genetic testing falls into three main categories, which are described below:

A. ***Cytogenetics***, one of the earliest forms of genetic testing, examines the entire chromosome rather than specific spots along a DNA strand. A typical human cell contains 23 pairs of chromosomes in its nucleus, and each individual chromosome contains DNA. By examining the chromosomes under a microscope, one is able to detect differences in the number, shape, and 'staining pattern' of the chromosomes. There are many common and rare disorders that can be diagnosed by looking at these three elements. Perhaps the best known condition that is confirmed using cytogenetics is Down's Syndrome. A child born with Down's Syndrome will have an extra chromosome at chromosome 21 (also called 'trisomy', because of the chromosomes appearing in a group of three, rather than a chromosome pair).

B. ***Molecular Genetics*** is perhaps the branch of medical genetics that is the most specialized, since it deals with diagnosis of gene mutations on the actual DNA strand. The 'gene' is, at its simplest, a small segment along a strand of DNA which contains the information instructing a cell to create a certain protein. Each DNA strand holds thousands of genes, which are amazingly comprised of only 4 possible chemical compounds arranged in an infinite number of combinations. It is through this diversity of combinations that we have our uniqueness as individual human beings. However, there are many combinations that have been found to be common amongst people with similar traits, including those suffering from similar illnesses. Molecular Genetics is concerned with testing people who have inherited one of the combinations that appears to be correlated with a specific disease. Some of the better known disorders that can be diagnosed or further confirmed with molecular genetics testing are breast cancer, cystic fibrosis, muscular dystrophy, and Huntington's Disease. In addition to diagnosis, a key role of molecular genetics is to identify 'carriers' of certain diseases, that is, people who may merely carry the gene for a disease but not necessarily suffer from it. In such circumstances, prospective parents who are known to be carriers may be better informed of the risks they take if they choose to have children of their own.

C. ***Bio-Chemical Genetic Testing*** is a step removed from molecular genetics, where the test is actually looking at the product(s) of a specific gene, rather than the section of DNA itself. Although genes are responsible for manufacturing every component of the human body, bio-chemical testing is primarily interested in enzymes, the key components directing metabolism in the body. By looking at these gene products, it provides geneticists with yet another tool for diagnosis of metabolic disorders.

Table 6: **PWS Medical Genetics – 2004/2005 Expenditures and Activity**

	Calgary	Capital	Change from Previous Year
Expenditure	$9.5 million	$8.2 million	15.2%
Genetic Tests			
- Cytogenetics	2,709	2,349	-2.3%
- Molecular	3,418	3,172	3.2%
- Biochemical	7,992	-	-7.5%
- Newborn Screening	-	127,184	1.2%
Clinical Genetics Consulting			
- Patients	2,123	1,912	0%

Human Immunodeficiency Virus (HIV) Clinics

There are two HIV Clinics in Alberta, one serving the North out of Edmonton, and the other serving the South from its site in Calgary. For 2006/2007, Province Wide Services has provided $3.36 million in funding for operation of these specialized clinics. This represents a 4.2% increase in funding from the previous year.

These clinics exist to work with Albertans infected with the Human Immunodeficiency Virus, the virus known to cause AIDS. The end goal is to improve their quality and length of life through regular contact for monitoring, medications, and education. Beyond the complex medical conditions that appear, a proportion of patients living with HIV also suffer from complex social issues like substance abuse and mental illness. These additional determinants of health require the staff of the HIV Clinics to be very flexible and knowledgeable in areas beyond their traditional health expertise.

At the end of 2004/2005, there were a total of 1,322 Albertans with HIV who were receiving antiretroviral therapy, the primary type of medication available for this disease. There were 507 patients whose infection had progressed to AIDS, and many more patients being followed over the course of a year, because of high-risk lifestyles. In generally, the total number of new HIV cases each year has experienced relatively stable growth, but there have been increases reported by both programs of infected people moving into the Province from outside of Canada.

The final area of notable growth for both clinics has been the number of potentially exposed infants who are being monitored for possible maternal to fetal transmission. In such instances, many of the infants are followed for up to 18 months to ensure they are healthy, virus-free, and receiving appropriate nutrition.

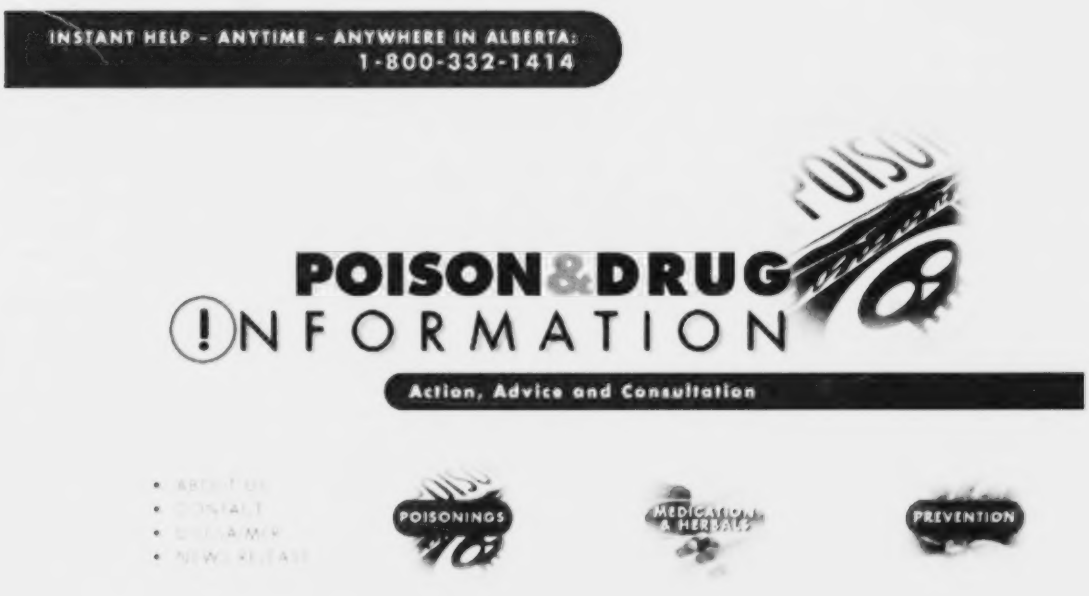
Poison and Drug Information Service (PADIS)

With a successful launch to their new website in 2005/2006 (www.padis.ca), the Poison and Drug Information Service (PADIS) continues to break new ground on getting emergency and education materials on poisoning into the hands of all Albertans. Although the Poison Centre distress line (aka 'Poison Control') is still their most widely known service, because of the public nature of the service, there are several other key services that this team of medical and pharmaceutical experts are providing to assist a broad range of decisions makers outside of the public spotlight.

The PADIS program is operated under the umbrella of the Calgary Health Region, who has received $3.4 million for 2006/2007 to provide this service to the entire Province. The following three services are included in their mandate:

1. ***Alberta Poison Centre*** – poisoning can refer to swallowing, breathing in, or any number of exposures to a toxic substance. Whether that substance is a commercial cleaner, an inhaled gas, or a prescribed drug, there are many obvious and not so obvious ways that people can experience poisoning and require immediate assistance. The Alberta Poison Centre is staffed 24 hours a day by experts in toxicology, ranging from pharmacists to physicians to nurses who are prepared to assist both members of the general public and other health providers in dealing with virtually any poisoning query that could arise.
2. ***Drug Information*** – a service primarily directed to health professionals to provide information and direction on prescribing drug therapies
3. ***Toxline*** – a service for employers and employees seeking advice and consultation on toxins in the workplace, especially in healthcare facilities.

In 2004/2005, PADIS fielded an average of 137 calls per day to their poison centre (49,900 total during the year), 29,000 Drug Information queries, and 2,200 Toxline calls. These calls originate from across Alberta on a fairly equitable population basis, and represent a 15% increase in total activity from the previous year.



Home Enteral Nutrition Programs (HENP)

Also known as 'tube feeding', Enteral Nutrition refers to any means of providing food to a patient through a tube, generally through the nose or directly into the stomach, but could include a tube inserted into the small intestine (a jejunostomy). Home-based enteral nutrition is often a welcome service that allows otherwise medically stable patients to leave the hospital and resume their lives in their home communities.

There are a wide variety of medical conditions that might prompt a patient to require nutritional formulas, but suffice it to say, all are unable to eat or eat enough to support their activities of daily living without the supplements.

During 2004/2005, there were a total of 979 children and 871 adults who required nutritional services from one of the HEN programs in either Capital Health or Calgary Health Region. Each patient's need for nutritional formula varies, where some need only a few weeks of supplementation, and others are tube fed for many years. A single patient who receives enteral nutrition for a year would be estimated to require 365 "therapy days". Cumulatively, the adult & child enteral nutrition programs provided a total of 483,500 therapy days in 2004/2005, an increase of 5.5% from the previous year.

PWS funding for Home Enteral Nutrition for 2006/2007 is $6.24 million, an increase of 15.9% over 2005/2006. This funding is intended to partially pay for the nutritional formula itself, plus the clinic and staff costs. Recipients or their families are expected to pay a co-payment on the formula costs themselves, which is based on an approximate average monthly cost of groceries per person. This is in recognition that nutritional formulas are a combination of medical treatment and normal household food costs.

COMPRU

Capital Health's Craniofacial Osseointegration and Maxillofacial Prosthetic Rehabilitation Unit (COMPRU) is a service providing reconstructive surgery and prosthetics for the face and head region. Whether it be due to birth defects, facial surgery, cancer, or trauma, the impact on quality of life for someone who is living with a facial deformity can be very debilitating, both functionally and socially.

The techniques and materials used by COMPRU allow them build and implant facial prosthetics that are virtually indistinguishable from the patient's own bone structure and skin tones. These prosthetics, with a few exceptions, are fully removable for adjustments and cleaning.

Other services provided by COMPRU that employ these same bone-anchoring techniques include the installation of 'bone-anchored hearing aids' (BAHA), prosthetic eye sockets, noses, and even the hard or soft palate inside the mouth.

COMPRU has also been providing a number of non-osseointegration (not bone-anchored) procedures. These are primarily related to the reconstruction of the upper and lower jaw, and require the specialization of a maxillofacial surgeon.

The workload on the COMPRU program is greatly influenced by the ongoing maintenance required by the ever increasing pool of patients they have served over time. Bone-anchored prosthetics require regular maintenance and adjustment from the COMPRU specialists. In 2004/05, the program had to scale back the number of scheduled maintenance visits in order to continue serving all the new patients still waiting for services.

During 2004/05, COMPRU served a total of 53 new osseointegration patients from Alberta, a further 3 for non-osseointegration procedures. 74 per cent of these new patients reside within Capital Health. As of April 1, 2005, there were 20 patients waiting for bone-anchored hearing aids, 8 for extraoral procedures, and 54 waiting for intraoral procedures.

For 2005/2006, PWS funding for COMPRU was set at $1.95 million.

Children with Complex Health Needs (CCHN)

With oversight from the Pediatric Advisory Team, a group of dedicated home care and hospital-based professionals, the CCHN program funds the delivery of home-based care to children who require ongoing medical supervision beyond what would be reasonable for a parent to provide themselves. In almost all cases, these children are dependent on costly technology like a ventilator that could otherwise confine them to hospital-based care. From a quality of life perspective, this option of home-based care is far less disruptive to families. A strong partnership with parents is essential, as they continue to be the primary caregiver for their child. The home-based care provided is intended to supplement the care provided by the parents, by providing night-time or other respite care.

In 2004/2005, a monthly average of 47 children were funded for extraordinary care through CCHN. These children are fairly evenly distributed across the province, with the exception of Capital Health, where 47 per cent of all CCHN children currently reside.

There are also ongoing challenges for this program in recruiting and retaining qualified staff who are content to work alone, especially in night-time supervision when the rest of a home may be sleeping. Capital Health and the Calgary Health Region have been piloting a number of staff training and flexible work arrangements to try and improve their ability to provide all the care that is required by these children. CCHN is a rare situation in health care where the best option for the patient and their family is also one of the least expensive, when compared to full-time hospital-based care. It is hoped that new learning from these pilot projects will improve staff recruitment and retention in the coming years.

The funding for CCHN has been set at $4.14 million for 2006/2007, an increase of 6.2 per cent from the previous year. Part of this funding increase is intended to assist the health regions with new staff recruitment initiatives.

Visudyne Therapy

Age Related Macular Degeneration, or AMD, is a leading cause of blindness in Albertans over the age of fifty. The macular region of the eye is a small dark point on the centre of the retina on the back of eye itself, and is the most light sensitive region of the eye. If the macula deteriorates, a person gradually loses their ability to focus on detailed objects directly in front of them. This loss of central vision has dramatic negative effects on activities of daily living like reading, driving, and any other activity requiring focussed vision.

While no treatments currently exist which can demonstrably reverse the symptoms of AMD, Visudyne has been shown to slow the progression of the disease so that people can maintain an adequate level of vision for a longer period of time than without treatment. Visudyne is the name of a whole procedure, also known as 'ocular photodynamic therapy', which involves the use of a laser to activate a drug called verteporfin in the macular region of the eye. The laser allows the drug to be activated in very precise regions of the eye, so that only the abnormal blood vessels responsible for the AMD are destroyed, leaving as much healthy retinal tissue as possible. In the end, this is not a cure, but rather a method of managing a particular area of leakage. If the problematic blood vessels grow back, or new abnormal ones develop, the procedure can be repeated.

Up until the end of December, 2005, the only form of AMD funded through PWS was the 'wet, classic form' of the condition, which essentially means there is active leaking from the blood vessels of the macula and the blood vessels causing the problem can be clearly identified by angiography. In most other forms of wet AMD, often called 'occult' membranes, the responsible blood vessels are not as easily identifiable.

As of January 1, 2006, the Minister of Health and Wellness announced that she will be approving public funding for a wider range of macular degeneration, including occult membranes.

For the 2006/2007 budget year, funding for Visudyne therapy was increased by 70 per cent, to fund increased demand in both existing and newly approved indications of AMD. Funding for 2006/07 is set at $6.0 million, which is based on an average cost of $2,350 per treatment, and an estimated 2550 publicly funded treatments to be provided during the year.

Pediatric Transport

Most infants or children requiring emergency transportation in Alberta can be stabilized by the sending hospital and then flown or driven to one of the children's hospitals with the support of a paramedic or emergency medical technician (EMT). In rare circumstances, however, one of the pediatric transport teams can be called out to assist in the transfer of a medically unstable child. The teams are based out of the children's hospitals intensive care units, and are staffed by highly trained Registered Nurses, Respiratory Therapists, and a critical care physician. Depending on circumstances, the physician may not always accompany the team.

In 2004/2005, approximately 50 per cent of these trips are taken by airplane (fixed wing), a further 10—15 per cent were by helicopter, and the remaining utilized ground ambulance. Individual circumstance, geography, and availability will all influence the mode of transportation. In 2004/2005, a total of 291 transports were carried out by the teams, 194 of these were for children from rural regions.

The total funding for the Pediatric Transport teams for 2006/2007 is $1.2 million, an increase of 11.5 per cent from the previous year. As the staff for the teams are also active members of the intensive care units in the children's hospital, part of the funding provided is intended to cover extraordinary staffing costs incurred when they are on stand-by so that other staff can be ready to fill in for them when they are called out for a transport.

PROVINCE WIDE SERVICES

High Cost Drugs

There are many Albertans who require ongoing medications to manage their chronic illnesses, but the PWS funded drugs are generally the highest cost therapies that are cost prohibitive to even patients covered by a drug plan.

For example, the average cost of some of these medications can be in excess of a thousand dollars per month. Even with an employer-sponsored drug plan that pays 70 or 80 per cent of the drug cost, the patient could still be responsible for thousands of dollars a year to cover their medications. In most circumstances, the drugs on the PWS list are provided free of charge to the patient who meet the clinical criteria, so they are not trying to ration their medications for financial reasons and put their long-term health in further jeopardy

The highest overall drug expenditures on the PWS High Cost Drug list are for immunosuppression drugs for organ transplants, and antiretroviral therapies for patients with HIV.

During 2004/2005, there were just three other groups of drugs included in the PWS list: a cystic fibrosis therapy, human growth hormone, and medications for primary pulmonary hypertension.

During 2005/06, several new therapies were added to the list and will be reported on in future years. The new therapies include Remicade for Crohn's disease, inhaled Tobramycin (TOBI) for cystic fibrosis, and four drugs for Multiple Sclerosis patients. There are no historical funding figures for these new therapies, but the new funding for each is shown in Table 7 below.

Total PWS drug funding for 2006/2007 is set at $50.1 million. A small portion of this funding is also intended to subsidize the distribution costs incurred by Capital Health and Calgary Health Region in ensuring ever eligible Albertan has equitable access to their life-sustaining therapies.

Table 7: **PWS High Cost Drugs Expenditure Trend**

	CAPITAL				CALGARY			
	2002/2003 Actual	2003/2004 Actual	2004/2005 Actual	2006/2007 Funded	2002/2003 Actual	2003/2004 Actual	2004/2005 Actual	2006/2007 Funded
Immunosuppressives	9,622,770	12,627,274	12,518,291	15,285,000	6,567,286	7,730,737	7,749,012	8,865,000
HIV Antiretrovirals	5,027,673	5,972,378	6,818,831	8,706,000	5,583,256	6,056,740	6,952,353	8,298,000
Pulmozyme	790,405	847,875	929,026	1,034,000	512,557	507,224	538,837	583,000
Flolan/Tracleer/HGH	1,063,998	1,686,185	1,488,621	2,138,000	939,441	1,237,336	1,583,588	2,267,000
TOBI	-	-	-	560,000	-	-	-	560,000
Remicade	-	-	-	260,000	-	-	-	260,000
MS Drugs	-	-	-	260,000	-	-	-	260,000
Distribution Costs	335,191	475,159	479,631	378,100	370,000	239,717	432,509	378,100
Total Drugs	**16,840,037**	**21,608,871**	**22,234,400**	**28,621,100**	**13,972,540**	**15,771,754**	**17,256,299**	**21,471,100**

Source: CHR and CH Annual PWS reports, 2006/2007 PWS Budget

PROVINCE WIDE SERVICES

High Cost Devices

Cochlear Implants

The cochlear implant is a big leap in technology from the standard hearing aid. For a small proportion of Albertans with profound deafness, standard devices are not beneficial. For children with such challenges, this hearing disability can cause delays in social development.

The cochlear implant has an internally implanted electrode that directly stimulates the inner ear, rather than simply trying to amplify sound like a traditional hearing aid. An external microphone is attached to the electrode, and is responsible for converting the audible sounds into electrical impulses that can be interpreted by the patient's ear and brain as sound.

During 2004/2005, cochlear implants were provided to 42 Albertans.

A total of $1.4 million is being provided for the purchase of cochlear implants for 2006/2007, an increase of 19 per cent from 2005/2006.

Cranioplasts

In 2004/05, 166 Alberta children were provided with a cranioplast, a special headband that is used to realign the skull plates while they are still soft and malleable in the first months of life. In all circumstances, the child has been born with a misshapen skull where the headband can be used to correct problems before they develop into more serious medical conditions.

For 2006/2007, funding for cranioplasties has been set at $140,000. The devices costs an average of $2,200 per headband.

Implantable Cardioverter Defibrillators (ICDs)

At around $25,000 per unit, an implantable cardioverter defibrillator is a technology that is very slowly being introduced into health systems worldwide as a preventative measure against sudden cardiac death. This is a highly specialized device that plays three major functions in monitoring and correcting erratic heart rhythms.

Like a standard pacemaker, which has a cost of about 10 per cent of an ICD, these devices monitor a patient's heartbeat for irregular patterns, and can introduce a small shock to reset the heart's natural 'pacing' back to normal. This function is called 'cardioversion'. Both an ICD and a pacemaker will keep track of each time a shock is delivered, and this information can be viewed by the patient's specialist at their next pacemaker clinic visit.

The unique feature of the ICD is the ability to deliver a far stronger shock or series of shocks to the heart, in the same way as a hospital-based defibrillator would work to restart a heart which has lost its rhythm and unable to effectively pump blood. The body is only able to survive a very short period of time without adequate blood flow before tissue damage and even death could result. The challenge of ICDs, because they are a preventative measure, is in determining eligibility of patients to receive them. The physician must use their clinical judgement to assess the risk of a patient suffering sudden cardiac death. In some instances, this means making decisions on people who have high risk factors but may not have experienced a full heart attack before.

There has been very rapid growth worldwide in the use of ICDs for both primary and secondary prevention of sudden cardiac death, but eligibility criteria continues to evolve in all jurisdictions. In Alberta, the number of devices implanted has grown from 133 in 2000/2001, to 359 in 2004/05. Funding for 2006/2007 is set at $11.7 million, an increase of 9 per cent from 2005/2006.

PROVINCE WIDE SERVICES

Other PWS Programs

Rosehaven

With a provincial mandate to serve patients with unmanaged psychiatric or behavioral issues, the Rosehaven Care Centre in Camrose is a unique service to Province Wide Services. It is the only PWS-funded program with administration in a site outside the 2 large urban areas, and it is the only continuing care or mental health program on the list of funded services.

Both mental health services and continuing care are generally under the jurisdiction of the individual Regional Health Authorities. In a select number of circumstances, however, the local care centres encounter individuals who, often in the early stages of dementia, demonstrate behaviors that are beyond the abilities or training of their staff to deal with. Rosehaven plays a unique role both in serving these residents directly themselves, or in training the care centre staff so they are better equipped to deal with these behaviors independently.

While in their facilities, Rosehaven staff of the In-House Program can assist a patient in curbing their inappropriate behaviour or dealing with mental health challenges they are encountering. In general, this is intended to be short-term assistance, with the end goal of discharging them back to their home community and local continuing care centre.

The Outreach Program operated by Rosehaven is directed more to training service providers from care centres across the province to better deal with the range of behaviours they will encounter. These training sessions can be provided through face-to-face consultations or even by telehealth.

To learn more about Rosehaven and its wide range of services to the continuing care sector, please visit their website at: www.thebethanygroup.ca/rosehaven.cfm

For 2006/2007, funding of $9.3 million for the Rosehaven Program has been provided to East Central Health.

Equipment

Some funding is provided to Calgary and Capital for Province Wide Services equipment above and beyond other sources of funding and the equipment amortization already included in the cost weights used in funding calculations. For the 2005/2006 fiscal year, $2.0 million is allocated to each of Capital Health and the Calgary Health Region.

APPROACH

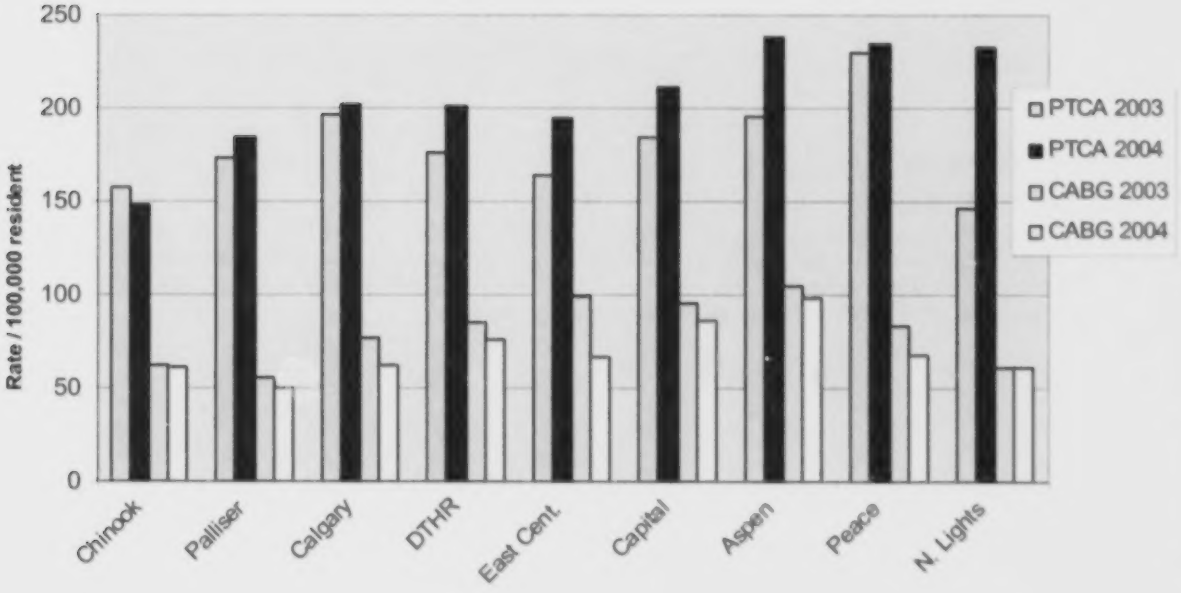
The **A**lberta **P**rovincial **P**roject for **O**utcomes **A**ssessment in **C**oronary **H**eart Disease (APPROACH) receives just a portion of its overall funding from Province Wide Services. Funding and in-kind support for APPROACH also comes from academic institutions, health regions, the private sector, and foundations.

APPROACH collects and analyzes data for all patients undergoing cardiac catheterization in Alberta. This includes all patients who receive angioplasty or bypass surgery in Alberta. Their data and research is instrumental in both the day-to-day operations of the cardiac catheterization labs, but also in looking at long-term outcomes, access issues, and planning decisions related to these specialized services. All patients are also sent a follow-up survey one year after their angiogram, to provide even richer information on the long-term outcomes. Additional information about APPROACH, and a full listing of the research projects that have been published by the APPROACH team can be viewed on their website (www.approach.org). You can also find a wealth of information on use of the cardiac catheterization services, displaying procedure rates for residents of all health regions across the province.

The tables below are just a small example of the reporting that APPROACH provides, illustrating the changing rates for angioplasties (PTCAs) and bypass surgeries (CABGs) from 2003 to 2004.

Funding for APPROACH continues to be based on a historical agreement that provides $150,000 to the program on an annual basis.

Figure 15: **Cardiac Procedure Rates by Regional Health Authority (2003 - 2004)**



PROVINCE WIDE SERVICES

Appendices

APPENDIX A
Province Wide Services Working Group (2004/2005)

Dr. Paul Greenwood[1], Chair
Province Wide Services Working Group

Dr. Ken Gardener
VP Medical Affairs
Capital Health

Mr. Allaudin Merali
Executive Vice President and Chief Financial Officer
Capital Health

Dr. Rob Abernathy
Executive Medical Director, Southwest Portfolio
Calgary Health Region

Ms. Kay Best
Executive Vice President, Risk Management and Chief Financial Officer
Calgary Health Region

Mr. Bryan Judd
Vice President and Chief Operating Officer, Corporate Services
David Thompson Regional Health Authority

Mr. Bruce M. Perry
Assistant Deputy Minister, Corporate Operations Division
Alberta Health and Wellness

Mr. Tapan Chowdhury
Executive Director, Health Authorities Funding and Financial Accountability Branch
Alberta Health and Wellness

Mr. Dennis Stang
Director, Health Funding and Economics
Alberta Health and Wellness

Mr. Sean Delaney
Manager, Province Wide Services
Alberta Health and Wellness

[1] *Dr. Greenwood completed his tenure as chair in the Summer 0f 2005.*

APPENDIX B
Province Wide Services
Working Group Terms of Reference (Charter)

Overview and Purpose

The Province Wide Services Working Group (PWSWG) advises/reports to the Deputy Minister of Alberta Health and Wellness (AHW). More specifically, the PWSWG monitors, evaluates, advises, recommends and advocates, in accordance with these terms of reference, on matters affecting the scope, priorities, budget, delivery and reporting for Province Wide Services.

Duties and Responsibilities

Charter/Workplan

1. Review PWSWG charter every August/September and make changes if necessary.
2. Set workplan every August/September for determining PWS budget recommendations for the upcoming fiscal year, including ongoing identification and addressing of significant issues and risks for the delivery of Province Wide Services.
3. Set workplan every March/April for post-budget issues.
4. Review annually PWSWG sub-committees and their progress.
5. Review annually effectiveness of the PWSWG against the terms of reference.

Principles

1. Review funding principles on an annual basis, and as need arises, including eligibility criteria for new PWS.
2. Update PWS Funding Procedures and Definitions Manual containing operational rules for determining the PWS budget every two years.
3. Review inpatient cost methodology.

Basket of Funded Services

1. Proposals for new PWS are submitted jointly by Capital Health (CH)/Calgary Health Region (CHR) (who are to collaborate in the optimal delivery of new PWS), or by AHW, to PWSWG for recommendation/consideration. Submissions for new proposals should be based on established templates.
2. PWSWG may request health technology assessments or Expert Committee on Drug Evaluation and Therapeutics review.
3. Consider potential deletions of PWS on an annual basis.
4. Review annually impact of inpatient grouper changes, and assess the need for changes to the basket of funded services.

PWS Budget

1. Alberta Health and Wellness develops, in early Fall, a three year forecast of PWS funding requirements based on growth rates of macro budget drivers.
2. AHW, with input from CH/CHR, develops initial PWS budget projections for upcoming fiscal year, on a line item basis, in accordance with established principles, by November, for review by PWSWG.
3. The PWSWG may appoint specialty task groups to address specific issues of a technical nature.
4. Where differences of opinion exist between PWSWG members on budget allocations, PWSWG chair makes final recommendation.
5. Budget recommendations of PWSWG are forwarded by chair to Deputy Minister in a letter reviewed by PWSWG. PWSWG chair will distinguish between recommendations of the Working Group and the Chair's own comments.
6. PWSWG sets final service priorities when informed by Alberta Health and Wellness of budget target. Final funding determination rests with government and Ministry.
7. On a post-budget basis, PWSWG shall advise of any additional mid-year funding pressures for PWS, as well as the allocation of any unallocated PWS funding or other matters of financial content.

Reporting (Financial Accountability)

1. CH/CHR reports to PWSWG annually, by mid-August, on PWS activities for the preceding fiscal year, according to established reporting templates and standardized definitions. Reporting templates for newly funded services are developed collaboratively between AHW, CH and CHR.
2. PWSWG reviews the financial and activity results of operations, analyzes information on significant variances, and provides appropriate reports.
3. Annual activities of the PWSWG are reflected in the PWS Annual Report developed by AHW and released after Budget Day. Annual Report distribution list includes all regional health authorities.

Outcomes (Medical Accountability)

1. Continue to develop and implement annual reporting of key indicators of PWS health outcomes.
2. PWS outcomes are reflected in the PWS Annual Report.
3. PWS symposium on activities and outcomes held during May-June time period.
4. Annual review of preventative strategies.

Communications

1. Develop communication strategies.

Membership

Membership of the Working Group shall consist of:

- a chair (appointed by Alberta Health and Wellness)
- the Chief Financial Officer and Chief Medical Officer of Capital Health and the Calgary Health Region
- a non-Capital/Calgary RHA representative (appointed by Council of CEOs)
- the Assistant Deputy Minister of Finance and Corporate Services
- support staff from Alberta Health and Wellness

Meetings

1. PWSWG meets on a regular basis, with a minimum of four (4) meetings a year. Meeting dates determined by PWSWG Chair in consultation with AHW, CH and CHR.
2. A provisional meeting agenda is determined by PWSWG Chair in consultation with AHW, and distributed prior to meetings. AHW support is responsible for delivery of notices, agendas and available related materials to the PWSWG prior to meetings. Any PWSWG member may add additional agenda items or suggest changes.
3. Alternates are allowed for PWSWG members at meetings.
4. Meeting minutes are developed by AHW and circulated to all PWSWG members, who can suggest revisions. At the next meeting the minutes are submitted for approval. Final minutes are provided to the Deputy Minister.

January 2004

APPENDIX C

Province Wide Services 2006/2007 Budget

	CAPITAL	CALGARY	TOTAL
INPATIENT SERVICES	**154,492,059**	**129,938,610**	**284,430,669**
Neurosurgery Physician Payment	1,000,000	1,000,000	2,000,000
Inpatient Services	153,492,059	128,938,610	282,430,669
CLINICS & HOME SERVICES	**91,269,491**	**90,439,600**	**181,709,091**
Renal Program	55,303,251	51,370,675	106,673,926
Dialysis Delay / Prevention	1,500,000	1,650,000	3,150,000
Pre and Post Transplant	9,184,000	9,184,000	18,368,000
Islet Cell Transplantation	1,800,000	0	1,800,000
Medical Genetics	10,966,640	11,096,640	22,063,280
HIV Clinics	1,464,000	1,891,000	3,355,000
PADIS	0	3,391,000	3,391,000
COMPRU (osseointegration)	2,100,000	0	2,100,000
Home Enteral Nutritional Therapy	3,556,000	2,683,000	6,239,000
Pediatric Transport	907,000	300,000	1,207,000
1-800 AIDS Hotline	149,000	0	149,000
Education Centre	0	728,035	728,035
STD/TB Clinics	1,200,000	1,150,000	2,350,000
Visudyne Therapy	3,139,600	2,855,250	5,994,850
Children w/Complex Health Needs	0	4,140,000	4,140,000
HIGH COST DRUGS	**28,621,100**	**21,471,100**	**50,092,200**
Transplant Drugs	15,285,000	8,865,000	24,150,000
HIV Drugs	8,706,000	8,298,000	17,004,000
Pulmozyme	1,034,000	583,000	1,617,000
Human Growth Hormone	640,000	767,000	1,407,000
Flolan/Tracleer	1,498,000	1,500,000	2,998,000
Tobi (Inhaled Tobramycin)	560,000	560,000	1,120,000
Crohns Drugs (Remicade)	260,000	260,000	520,000
MS Drugs	260,000	260,000	520,000
Distribution costs	378,100	378,100	756,200
HIGH COST DEVICES	**7,054,650**	**6,193,090**	**13,247,740**
Implantable Cardioverter Defibrillators	6,251,000	5,453,000	11,704,000
Cranioplasty	102,150	38,590	140,740
Cochlear Implants	701,500	701,500	1,403,000
EQUIPMENT	2,000,000	2,000,000	**4,000,000**
APPROACH	0	150,000	**150,000**
ROSEHAVEN (East Central)	0	0	**9,300,000**
UNALLOCATED FUNDS	1,078,600	1,078,600	**2,157,200**
TOTAL PWS	284,515,900	251,271,000	545,086,900